Supreme Court, U.S.
FILED

No. 95-1330 FEB 20 1996

OFFICE OF THE CLERK

In The

Supreme Court of the United States

October Term, 1995

In Re CLEVELAND TANKERS, INC., as owner and operator of the M/V "*Jupiter*," for exoneration from or limitation of liability.

AMERICAN STEAMSHIP COMPANY,

Petitioner,

vs.

CLEVELAND TANKERS, INCORPORATED; TOTAL PETROLEUM, INCORPORATED; FIREMAN'S FUND INSURANCE COMPANIES,

Respondents.

Petition for Writ of Certiorari to the United States Court of Appeals for the Sixth Circuit

PETITION FOR WRIT OF CERTIORARI

DANIEL S. SAYLOR
Counsel of Record
THOMAS W. EMERY
GARAN, LUCOW, MILLER,
SEWARD & BECKER, P.C.
Attorneys for Petitioner
1000 Woodbridge Place
Detroit, Michigan 48207-3192
(313) 446-5520

8288
Lutz Appellate Services, Inc.
(800) 3 APPEAL • (800) 5 APPEAL • (800) BRIEF 21

QUESTIONS PRESENTED FOR REVIEW

1. Whether differences in proximity of causation, as encompassed in common law concepts such as superseding cause and foreseeability, must be addressed and applied by a court in an admiralty action when apportioning fault under *United States v. Reliable Transfer Co.*?

2. Are the ultimate findings and conclusions in a United States Coast Guard investigative report admissible into evidence, where Fed. R. Evid. 402 renders all relevant evidence admissible "except as otherwise provided by . . . Act of Congress," and 46 C.F.R. § 4.07-1(b), while providing that Coast Guard reports are not intended to fix civil responsibility, does not bar their admission into evidence?

LIST OF PARTIES

The parties are Petitioner, American Steamship Company, the appellant in the circuit court; and Respondents, Cleveland Tankers, Incorporated, Total Petroleum, Incorporated, and Fireman's Fund Insurance Companies, the appellees in the circuit court.

Petitioner, American Steamship Company, is a subsidiary of GATX Corporation.

TABLE OF CONTENTS

	Page
Questions Presented for Review	i
List of Parties	ii
Table of Contents	iii
Table of Citations	iv
Opinions Below	1
Statement of Jurisdiction	1
Constitutional and Regulatory Provisions Involved	1
Statement of the Case	2
A. Nature of the Case	2
B. Facts	3
C. District Court Findings and the Appeal	7
Reasons for Granting the Writ	10
I. "Fault" Under *United States v. Reliable Transfer Co.* Must be Apportioned as a Function of Both Improper Conduct and "Causative Potency."	15
II. The Admissibility of Coast Guard Reports Is Not Barred by any Act of Congress; Therefore, in Light of *Beech Aircraft Corp. v. Rainey,* the Ultimate	

Contents

Page

Findings and Conclusions in Coast Guard Reports Are Admissible Into Evidence. 22

Conclusion 25

TABLE OF CITATIONS

Cases Cited:

Bank of Lexington & Trust Co. v. Vining-Sparks Securities, Inc., 959 F.2d 606 (6th Cir. 1992) 24

Beech Aircraft Corp. v. Rainey, 488 U.S. 153 (1988) ... 22, 24

Blue Jacket, 144 U.S. 371 (1892) 15

Commercial Union Ins. Co. v. M/V Bill Andrews, 624 F.2d 643 (5th Cir. 1980) 16

Creole Shipping Ltd. v. Diamandis Pateras, Ltd., 410 F. Supp. 313 (S.D. Ala. 1976), *aff'd*, 554 F.2d 1348 (5th Cir. 1977) 8, 16, 17

Cumberland County v. M/T Delbar, 604 F. Supp. 383 (D.N.J. 1985) 12, 20

Donaghey v. Ocean Drilling & Exploration Co., 974 F.2d 646 (5th Cir. 1992) 11

Drake v. Inland Waterways Corp., 111 F. Supp. 891 (E.D. Mo. 1953) 9

Contents

Page

East River Steamship Corp. v. Transamerica Delaval, Inc., 476 U.S. 858 (1986) 20

Exxon Company v. Sofec, Inc., 54 F.3d 570 (9th Cir. 1995), *cert. granted*, 116 S. Ct. 493 (1995) 12, 13, 26

Hellenic Lines, Ltd. v. Prudential Lines, Inc., 813 F.2d 634 (4th Cir. 1987) 15

Hercules, Inc. v. Stevens Shipping Co., 765 F.2d 1069 (11th Cir. 1985) 11, 16, 17

Huber v. United States, 833 F.2d 398 (9th Cir. 1988) ... 22, 24

In Re Cleveland Tankers, Inc., 67 F.3d 1200 (6th Cir. 1995) 1

Inter-Cities Navigation Corp. v. United States, 608 F.2d 1079 (5th Cir. 1979) 15

Italia Societa per Azioni di Navigazione v. Oregon Stevedoring Company, 376 U.S. 315 (1964) 20

Keen v. Detroit Diesel Allison, 569 F.2d 547 (10th Cir. 1978) 25

Lone Star Industries, Inc. v. Mays Towing Co., 927 F.2d 1453 (8th Cir. 1991) 11, 13, 14, 17, 18

M/T BT Nautilus, 862 F. Supp. 1251 (D.N.J. 1994) 22

Contents

Page

Matter of the Petition of Cleveland Tankers, Inc., 821 F. Supp. 463, 1993 A.M.C. 865 (E.D. Mich. 1992) 1

O'Donnell Transportation Co., v. M/V Maryland Trader, 228 F. Supp. 903 (S.D.N.Y. 1963) 20, 21

Pan Alaska Fisheries, Inc. v. Marine Construction & Design Co., 402 F. Supp. 1187 (W.D. Wa. 1975), *vacated*, 565 F.2d 1129 (9th Cir. 1977) 11

Petition of Kinsman Transit Company, 338 F.2d 708 (2d Cir. 1964), *cert. denied*, 380 U.S. 944 (1965) 19, 20

Protectus Alpha Navigation Co. v. North Pacific Grain Growers, Inc., 767 F.2d 1379 (9th Cir. 1985) 25

Prudential Lines, Inc. v. McAllister Bros., Inc., 801 F.2d 616 (2d Cir. 1986) 15, 16

Puerto Rico Ports Authority v. M/V Manhattan Prince, 897 F.2d 1 (1st Cir. 1990) 22

Self v. Great Lakes Dredge & Dock Co., 832 F.2d 1540 (11th Cir. 1987) 15

Southern Pac. Transportation Co. v. Tug Captain Vick, 443 F. Supp. 722 (E.D. La. 1977) 11, 12

Taylor v. Bouchard Transp. Co., 1991 A.M.C. 2423 (S.D.N.Y. 1991) 22

Contents

	Page
The Konigen Juliana, 2 Lloyd's Rep. 353 (1974)	16
The Pennsylvania, 86 U.S. (19 Wall.) 125 (1874)	21
The Rotherfield, 123 F. 460 (S.D. Ala. 1903)	9
The Sea Gull, 90 U.S. (23 Wall.) 165 (1874)	15
United States v. Reliable Transfer Co., 421 U.S. 397 (1975)	i, 8, 10, 13, 14, 15, 20, 25, 26
Western Pacific Fisheries, Inc. v. S.S. President Grant, 730 F.2d 1280 (9th Cir. 1984)	15
Statutes Cited:	
14 U.S.C. § 2	23
28 U.S.C. § 1254(1)	1
46 U.S.C. App. § 183(a)	2
49 U.S.C. § 1903(c)	25
United States Constitution Cited:	
Article III, Sec. 2	1
Rules Cited:	
Fed. R. of Evid. 401	22

Contents

Page

Fed. R. Evid. 402 ..... i, 23, 25

Fed. R. Evid. 803(8) 24

Other Authorities Cited:

46 C.F.R. § 4.07 (1994) 23

46 C.F.R. § 4.07-1(b) ..... i, 1, 24

46 C.F.R.. § 4.07-1(c) (1994) 23

Brandon, *Apportionment of Liability in British Courts under the Maritime Conventions Act of 1911*, 51 Tul. L. Rev. 1025 (1977) 16

Meadows and Markulis, *Apportioning Fault in Collision Cases*, 1 U.S.F. Mar. L.J. 1 (1989) 10, 11, 12

Owen and Moore, *Comparative Negligence in Maritime Personal Injury Cases*, 43 La. L. Rev. 941 (1983) ... 10

APPENDIX

Appendix A — Opinion of the United States Court of Appeals for the Sixth Circuit Dated October 19, 1995 ..... 1a

Appendix B — Order of the United States Court of Appeals for the Sixth Circuit Dated November 21, 1995, Denying Rehearing 18a

Contents

Page

Appendix C — Opinion of the United States District Court for the Eastern District of Michigan, Southern Division Dated June 9, 1993 ..... 20a

Appendix D — Judgment of the United States District Court for the Eastern District of Michigan, Southern Division Dated June 9, 1993 ..... 137a

Appendix E — Opinion and Order of the United States District Court for the Eastern District of Michigan, Southern Division Dated December 10, 1992 ..... 139a

Appendix F — Report of the United States Coast Guard Dated August 13, 1991 ..... 147a

Appendix G — Sequential Photographs of Vessel Passage and Explosions 155a

OPINIONS BELOW

The opinion of the United States Court of Appeals for the Sixth Circuit (App. A) is reported at *In Re Cleveland Tankers, Inc.*, 67 F.3d 1200 (6th Cir. 1995). The District Court for the Eastern District of Michigan's opinion on the merits (App. C) is unreported, and its opinion on the admissibility of the United States Coast Guard conclusions (App. E) is reported at *Matter of the Petition of Cleveland Tankers, Inc.*, 821 F. Supp. 463, 1993 A.M.C. 865 (E.D. Mich. 1992).

STATEMENT OF JURISDICTION

The opinion of the Court of Appeals was filed on October 19, 1995. A timely petition for rehearing was denied by order filed November 21, 1995 (App. B). The jurisdiction of this Court is invoked under 28 U.S.C. § 1254(1).

CONSTITUTIONAL AND REGULATORY PROVISIONS INVOLVED

Article III, Sec. 2 of the Constitution of the United States provides, in part:

> The judicial Power shall extend * * * to all Cases of admiralty and maritime Jurisdiction[.]

46 C.F.R. § 4.07-1(b) provides:

> The investigations of marine casualties and accidents and the determinations made are for the purpose of taking appropriate measures for promoting safety of life and property at sea, and are not intended to fix civil or criminal responsibility.

STATEMENT OF THE CASE

A. Nature of the Case

On the morning of September 16, 1990, the tankship *Jupiter*, while delivering a cargo of unleaded gasoline to Total Petroleum, Inc.'s facility on the Saginaw River near Bay City, Michigan, was destroyed in a series of explosions when it broke free from its moorings and ruptured its cargo transfer hose. The incident occurred when the *Buffalo*, a bulk cargo freighter operated by petitioner American Steamship Company, passed the *Jupiter* while heading upriver with a delivery of coal. A white oak bollard to which the *Jupiter* was moored, afterward determined to be 90-95% dry-rotted, snapped when the *Jupiter* moved within her berth and allowed the stern of the vessel to swing loose from the dock and into the channel. The outstretched cargo hose leading from the dock facility to the ship ruptured. An ensuing fire on the dock spread to the deck of the *Jupiter*, where unprotected openings to the main cargo tanks (ullage pipes) permitted the flames to ignite the vapors and cause a series of violent explosions (App. G, 155a-162a — photographs).

The episode resulted in personal injuries, one loss of life and substantial property damage, including loss of the tanker, ultimately totaling more than $15,000,000 in damage settlements and awards. Petitions for exoneration from or limitation of liability pursuant to 46 U.S.C. App. § 183(a) were filed by Cleveland Tankers, Inc. (owner of the *Jupiter*) and American Steamship. Claims for damages were filed, including a claim for loss of cargo[1] and property damage by Total Petroleum, who was also joined as a defendant. The district court ordered the trial bifurcated, and conducted a 29 day non-jury trial of liability issues only. Separate trials of the unsettled damages

1. Respondent Fireman's Fund Insurance Companies insured the *Jupiter*'s cargo and is subrogated to Total's claim for the lost cargo.

claims have taken place during the pendency of these appellate proceedings.

B. Facts

Total Petroleum, Inc., maintained a facility for the bulk storage of 600,000 barrels of petroleum products in Bay City, Michigan. While most of its product was received via pipeline and tank trucks, the facility's location on the navigable Saginaw River also provided the ability to conduct cargo transfers with tankships. To facilitate marine transfers, Total built a T-shaped pier adjacent to the shipping channel. A pipeline extended the length of the dock, at the river end of which was an electrically powered motor-operated valve and a manifold for connecting the pipeline to the tankship's cargo transfer hose.

Situated in the water at the end of the pier were four wood piling clusters for mooring vessels to the dock. The center post of each cluster, called a "bollard" or "kingspile," extended above the other pilings and was the head over which a vessel's mooring line would be looped. Because of their continuous exposure to river water and to snow and ice in the winter, the pilings were known to have a limited life span due to susceptibility to fungal attack, and thus needed to be regularly inspected for dry-rot.

Total, however, maintained no maintenance schedule (creosoting, capping or other protective measures), kept no age records for the pilings, and had no plan for their periodic replacement (App. C, 122a-124a).[2] Total's personnel were conceded to be unqualified to inspect its marine facility, yet Total never retained or contracted with anyone else to inspect its facility. Total claimed to have relied upon a local dock

2. With regard to the number 4 kingspile that failed in this case, because of the lack of age records Total's facility manager had "no idea" how old the piling was on the morning of September 16, 1990 (Garner, Tr XXI 61-62).

repairman's routine of annually checking the condition of wharfs and piers along the river, but the repairman himself was unaware that he was being so relied upon (*ibid*). He did periodically contract with Total to repair damage caused by previous vessel mooring incidents, and his records provided a history of the events.

In 1982, "fairly rough" weather and river current caused a vessel (the *Jupiter*) to shift from its berth and out into the channel, straining the number 4 cluster and pulling its kingspile over. It was repaired the following spring, after a tug and barge damaged cluster number 3. In fall of 1984, the failure of cluster number 1 resulted in a vessel breakaway. Another vessel breakaway occurred when the *Chemical Transport* was pulled off the dock during a vessel passage. In 1987, the *Jupiter*, while attempting to dock in rough weather, struck and severely damaged cluster number 2, requiring replacement of the entire cluster. Finally, in 1988, an Amoco barge damaged the new cluster number 2 in another vessel passage-related breakaway.

On September 16, 1990, at 1:45am, the *Jupiter* moored at the Total Petroleum pier to deliver 54,500 barrels of unleaded gasoline. Four wire rope cables, each controlled by an electrically powered winch, were connected to the four mooring clusters; numbers 1 and 2 held the bow of the vessel, numbers 3 and 4 held the stern. Two polypropylene lines, one at the bow and one at the stern, were also looped over the numbers 1 and 4 bollards, respectively (App. C, 136a — diagram of mooring arrangement). A cargo hose, with sufficient slack to accommodate substantial movement of the vessel within her berth, was fastened to the ship and dock manifolds, and the cord to the motor-operated valve remote control was draped over the ship's railing. The cargo pumps were then started to begin delivery of the gasoline.

As off-loading of cargo continued, the *Jupiter* crew periodically checked the amount of gasoline remaining in the hold. Each of the twelve cargo tanks had an ullage pipe, an opening from the deck to the hold through which a measuring tape could be dropped to determine the fluid level. Each of the ullage pipes had a hatch cover, or ullage cap, that could be opened for ullage checks and closed to maintain vapor-tight integrity of the cargo space such that fire could not reach the tanks and risk of explosion would be eliminated.

Just inside the top of each ullage pipe, on small protrusions welded to the pipe, sat a circular flame screen. As long as the screens were snugly "fitted" against the walls of the pipe, as required by Coast Guard regulations (*see* App. C, 96a-97a), the screens would prevent flames from igniting the vapors within the hold. The *Jupiter*'s flame screens, however, were so loose as to permit crew members to check ullage levels with the measuring tape without ever removing the screens. The routine of the *Jupiter* crew during cargo unloading was to insert measuring tapes into each ullage pipe then leave them hanging with the ullage caps left open (App. C, 103a-109a).

Later in the morning, when 60% of the tanker's cargo had been discharged, the *M/V Buffalo* came into view heading inbound. The *Buffalo*, a bulk cargo carrier, is 634 feet long and 68 feet wide, and with its load of coal had a stern draft of 22 feet; the depth of the dredged channel at the Total pier was 26 feet. As the *Buffalo* approached, the *Jupiter* crew initiated standard preparations for the passage by shutting down the cargo pumps and manning the mooring winches. Such procedures are routine and necessary in close channels since, due to the significant water displacement with larger vessels, suction and surge forces are unavoidable and are thus anticipated.[3]

---

3. The district court noted that the reason for manning the winches (Cont'd)

As the *Buffalo* approached and passed, the *Jupiter* slid forward slightly, then surged aft approximately ten feet to challenge the number 4 mooring bollard. The head of the number 4 kingspile snapped off, freeing the stern of the vessel to swing away from the pier. With nothing but the bow lines left intact (crew member Skinner had released the tension on the number 3 cable leaving it free to unwind), the cargo hose itself became the only "line" tethering the stern to the dock. Its remaining slack was expended as the boat swung into the channel. The hose ruptured, spilling its contents on the pier and on the *Jupiter*'s deck. Electrical sparks ignited a fire on the dock and eventually spread to the ship deck.

The captain of the *Jupiter* sounded the fire alarm and the crew initiated the main deck's foam fire extinguishing system. Before the foam monitors could be activated, however, an explosion shook the boat as the oxygen rich vapors of one of the cargo tanks ignited. This explosion defeated the pressurized foam fire-fighting system and was followed by additional explosions.

Although the entire crew of the *Jupiter* abandoned ship, several men were injured and one man drowned. The vessel and

---

(Cont'd)
during vessel passages was "to reduce the likelihood that the *Jupiter* would break free from her moorings" (App. C, 84a-85a). The vessel's movement within her berth is expected (*Jupiter*'s Officer Stengel, Tr XIV 138-139 — "It happens all the time, yes sir.").

From the perspective of the *Jupiter*, on the question of whether it was foreseeable that a passing vessel (whether negligently or not) might cause a breakaway, the risk was not only foreseeable, but specifically foreseen (Stengel, Tr XIV 87 — "I'll just say, on a number of occasions that particularly this dock right here and the Amoco dock in the river, you do have a tendency to get sucked off the dock when vessels go by you too fast.").

its cargo were a total loss, and the dock facility was extensively damaged.

One witness observed the *Buffalo*'s entire passage of the *Jupiter* from a bridge located just up river from the Total pier. She happened to have her camera with her, and captured the entire event from the deck fire through and including the first explosions (App. G).

C. District Court Findings and the Appeal

After a 29 day trial, the district court found American Steamship (*Buffalo*), Cleveland Tankers (*Jupiter*) and Total Petroleum (the dock) all to have liability. It found the *Buffalo* to have passed the moored *Jupiter* at an excessive rate of speed, based in part on a legal presumption of fault applicable to a passing vessel when damage is sustained by a vessel "properly moored" (App. C, 33a-34a, 47a, 53a), and in part on its finding that the *Buffalo* violated "slow — no wake speed" ordinances (App. C, 34a-37a).

Total Petroleum was found to have breached its duty to provide a reasonably safe berth, holding that the 90-95% dry-rotted bollard "was unsafe to use as a mooring post" (App. C, 119a, 127a) and holding that Total's negligence caused the accident because a sound bollard would have withstood the forces imposed in this case and prevented the breakaway (App. C, 125a-127a).

Finally, the district court found that it was the *Jupiter*'s use of loose flame screens in the ullage pipes, rendering the tanker unseaworthy, and the crew's negligence in leaving the caps on the ullage pipes open, that provided the pathway for the flames to spread into the cargo hold and cause the explosions (App. C, 96a-98a, 102a, 108a-109a). Had ignition been kept from the

cargo tanks, the ship's pressurized foam fire-fighting system would have extinguished the deck fire and prevented the explosions (App. C, 99a, 108a-109a).

Of the court's 92 page written opinion, the last two paragraphs were devoted to "apportionment of fault" under *United States v. Reliable Transfer Co.*, 421 U.S. 397 (1975). After determining that all three potentially at fault parties must share liability for the damages, the court found the conduct of the *Buffalo* to be "much more egregious than that of the *Jupiter* or Total Petroleum, Inc." (App. C, 133a). Observing that the *Buffalo* "instigat[ed] the entire chain of events," the court cited *Creole Shipping Ltd. v. Diamandis Pateras, Ltd.*, 410 F. Supp. 313 (S.D. Ala. 1976), *aff'd*, 554 F.2d 1348 (5th Cir. 1977), and, noting that the passing vessel in that case was assessed twice as much fault as the negligently moored vessel, proceeded to impose twice as much fault on the *Buffalo* (the passing vessel) as on the *Jupiter* (moored vessel) and Total Petroleum (wharf owner) (App. C, 133a — 50%-25%-25%). The court did not address that the passing vessel in *Creole* was aware of the moored vessel's loose lines (410 F. Supp. at 316-317) and that the *Buffalo* was aware neither of the rotted bollard nor of the open ullage covers or inadequate flame screens.

On appeal, petitioner argued that the district court's findings against the *Buffalo*, as to both the attribution of fault and the apportionment of fault, were legally defective and clearly erroneous. Petitioner also argued that the district court erred in refusing to admit into evidence the ultimate findings and conclusions contained in the investigative report of the United States Coast Guard (App. E).

Petitioner maintained that the presumption of fault against a passing vessel, applicable when damage is sustained by

another vessel properly moored,[4] could not be imposed on the *Buffalo* in light of the court's findings that the dry-rotted mooring post rendered the *Jupiter*'s mooring unsafe (App. C, 119a, 127a). The Court of Appeals noted that the district court relied on this legal presumption (App. A, 6a), but, on the basis of an alternative ground for affirming the finding of negligence, it declined to review the issue despite petitioner's assertion that the erroneous imposition of presumed fault necessarily invalidated the *apportionment* of fault.

Petitioner argued that, even if the *Buffalo* was negligent in its passage of the *Jupiter*, the district court erred in failing to give meaning to the dramatic increase in damages that resulted from the intervening fault of the *Jupiter*. Petitioner argued that Total's

---

4. Where a vessel *properly moored at a dock*, at anchor, or not in motion, is damaged by a vessel in motion, the presumption of law is that it was the fault of the one under way; and it is presumptively liable until the contrary is shown, the burden of doing which is upon the vessel under way. [] *The vessel in motion must exonerate herself from blame by showing that it was not in her power to prevent the injury* by adopting any practicable precautions. [] It is the duty of steamers passing docks or other mooring places to pass at such a rate of speed that no danger will result from her swell, or to pass at such a distance that no harm will result to a vessel, lawfully there *and properly moored*, from the suction produced by her passage through the water or from her displacement wave[.]

The Rotherfield, 123 F. 460, 461 (S.D. Ala. 1903) (emphasis added); *accord*, *Drake v. Inland Waterways Corp.*, 111 F. Supp. 891, 893 (E.D. Mo. 1953). In our case, the district court found as fact that, had Total provided a sound mooring post (*i.e.*, if the Jupiter had been a vessel properly moored), the accident would not have occurred (App. C., 125a-127a).

negligence in conducting petroleum product transfers with tankers moored to a bollard rendered ineffective by 90-95% dry-rot was the most glaring and directly causative factor in the case. This contention was consistent with the conclusions reached by the United States Coast Guard (App. F, 147a).

Reviewing under the clearly erroneous standard, the Court of Appeals affirmed the lower court's apportionment of fault (App. A, 12a). The court declined to address petitioner's superseding cause argument on the mistaken premise that petitioner had disavowed reliance upon superseding cause (App. A, 14a-15a), and affirmed the lower court's decision to exclude the Coast Guard's conclusions from evidence.

Petitioner filed a petition for rehearing, which was denied by order of November 21, 1995 (App. B, 19a).

REASONS FOR GRANTING THE WRIT

In *United States v. Reliable Transfer Co.*, 421 U.S. 397 (1975), this Court discarded the equal division of damages rule and in its place adopted the apportionment of fault rule, under which liability for damage "is to be allocated among the parties proportionately to the comparative degree of their fault" (*id.*, at 411). Precisely what is to be compared in the name of "fault" was not and has yet to be determined. As one article put it, "The Supreme Court in Reliable Transfer did not make clear how fault was to be apportioned in collision cases, *i.e.*, whether causation, culpability, or both, was to be the underlying basis in finding the 'comparative degree of . . . fault' between the parties."[5] As a

---

5. Meadows and Markulis, *Apportioning Fault in Collision Cases*, 1 U.S.F. Mar. L.J. 1, 31 (1989), *quoting Reliable Transfer*, 421 U.S. at 411. *Accord*, Owen and Moore, *Comparative Negligence in Maritime Personal Injury Cases*, 43 La. L. Rev. 941, 956 (1983) (addressing whether (Cont'd)

result, "there has not been a clear line for the American courts to follow in apportioning fault."[6]

The lack of guidance regarding whether differing degrees of proximate cause, or "causative potency," must be considered in the *apportionment* of fault or merely in determining the *existence* of fault, has led to inconsistency among the trial and appellate courts. *Compare Lone Star Industries, Inc. v. Mays Towing Co.*, 927 F.2d 1453 (8th Cir. 1991), and *Donaghey v. Ocean Drilling & Exploration Co.*, 974 F.2d 646 (5th Cir. 1992) (both holding that the doctrine of superseding cause, a proximate cause principle, survives the adoption of proportional fault) to *Hercules, Inc. v. Stevens Shipping Co.*, 765 F.2d 1069 (11th Cir. 1985) (holding that once any contributory cause is established, complete apportionment of fault renders doctrines such as intervening cause and last clear chance unnecessary).

In *Pan Alaska Fisheries, Inc. v. Marine Construction & Design Co.*, 402 F. Supp. 1187, 1188 (W.D. Wa. 1975), *vacated*, 565 F.2d 1129 (9th Cir. 1977), the lower court held that liability is apportioned by culpability and not by degree of causation. In vacating the opinion on other grounds, the Ninth Circuit referred favorably to the term "comparative causation." 565 F.2d at 1139. At about the same time, another district court was holding that "in calculating the degree of fault, the court must consider, under basic common law tort principles, the blameworthiness of each vessel and the extent to which the vessel contributed to the accident." *Southern Pac. Transportation Co. v. Tug Captain*

(Cont'd)
"consideration needs to be given not only to the measure of culpability but also to the relative closeness of the causal relation between the actor's conduct and the injury." The authors note that "Reliable Transfer . . . did not decide the instant question.").

6. Meadows and Markulis, *supra*, p. 33.

Vick, 443 F. Supp. 722, 732 n. 1 (E.D. La. 1977). Thereafter, the court in *Cumberland County v. M/T Delbar*, 604 F. Supp. 383, 389 (D.N.J. 1985), held that "it is culpability, not the degree of causation on which liability is apportioned;" yet proceeded to impose predominant fault on the party whose negligence last came into play, since "that party was in the best position to prevent collision" — indisputably a causative factor. Thus, even while advocating that apportionment of fault would be "easier" without causative considerations, the commentators quoted earlier concede:

> It must be concluded that although one vessel may be clearly more culpable than the other vessel, the less culpable faults may have a higher "causative potency," thereby evening the apportionment score.[7]

In *Exxon Company v. Sofec, Inc.*, 54 F.3d 570 (9th Cir. 1995), *cert. granted*, 116 S. Ct. 493 (1995), the Ninth Circuit affirmed the exoneration of a party whose fault was conceded to have causally contributed to the grounding and loss of an oil tanker. Applying the doctrine of superseding cause, the court perceived proximate causation as an all or nothing proposition. Having found proximate cause to have been severed, the district court did not concern itself with apportionment of fault, and the Ninth Circuit affirmed.

In this case, the district court likewise regarded proximate cause as an all or nothing proposition. After finding the negligence of Cleveland Tankers, Total Petroleum and American Steamship all to have been proximate causes of the loss, the court proceeded to the apportionment inquiry leaving the element of causative potency behind. In both *Exxon* and the case at bar,

---

7. Meadows and Markulis, at pp. 27-28.

"proximate cause" was regarded as a threshold requirement for the *existence* of fault, but not as a comparative factor in the *apportionment* of fault, as is required, petitioner maintains, under *Reliable Transfer*.

This Court has granted certiorari in the *Exxon* case (*Exxon Company, U.S.A. v. Sofec, Inc., No. 95-129*) to decide whether, after *Reliable Transfer*, superseding cause survives as a fully exonerating defense. Assuming it does not, the case at bar presents the logical corollary: whether differing degrees of causal proximity are relevant at all in admiralty. Petitioner contends that they are; that, of necessity, differences in causal proximity must be reflected in the apportionment of fault.

The lack of guidance regarding causation's role in apportionment of fault is reflected in the Sixth Circuit's treatment of the apportionment issue in this case. Petitioner argued that the substantial differences among the parties' causative contributions to the ultimate loss were erroneously ignored by the district court in its apportionment of fault. While the Court of Appeals acknowledged that the issue was raised,[8] it failed to recognize the relevance of the causation argument in the context of apportionment. It effectively dismissed the issue, stating, "American Steamship's argument sounds very much like a superseding cause defense. However, American Steamship expressly denies relying on a superseding cause theory. Therefore, the case on which American Steamship relies, *Lone Star Industries, Inc. v. Mays Towing Co.*, 927 F.2d 1453 (8th Cir. 1991), a superseding cause case, is not germane." (App. A,

---

8. "American Steamship contends that ... the negligence of Total and the *Jupiter* changed the nature of the accident from a minor break-away incident to a catastrophic explosion." (App. A, 12a); "American Steamship also contends that the court erred in allocating fault among the acts of negligence, because it argues that the subsequent negligence of Total and Cleveland Tankers radically changed the nature of the accident." (App. A, 14a).

14a, n. 6). In fact, what is and has been American Steamship's position is that the relative lack of proximate causation on the part of the *Buffalo*, well illustrated by the analogous facts in *Lone Star Industries*, is relevant not as a basis for exoneration from fault, but as a necessary factor in the apportionment of fault.[9]

As a result of the Court of Appeals' misapprehension of the role proximity of causation must play in apportionment of fault, petitioner was effectively denied meaningful review of the district court's assignment of predominant fault to the *Buffalo*. This Court should grant this petition to decide whether apportionment of fault under *Reliable Transfer* requires a court to assess not only the comparative egregiousness of conduct, but the comparative "causative potency" of conduct, as well.

---

9. American Steamship argued to the Court of Appeals:

> [Contrary to Cleveland Tankers' assertions,] ASC has not attempted to raise affirmative defenses such as "superseding cause" or "last clear chance" in support of its claim for exoneration. Rather, *assuming* that liability is imposed upon ASC [], [*Jupiter*'s] intervening *and independent* fault, with respect to its leaving ullages unprotected, should have been a significant factor in *apportionment* — as envisioned in *Hercules, Inc. v. Stevens Shipping Co.*, 765 F.2d 1069, 1075-76 (11th Cir. 1985) (subsequent independent negligence is considered in apportionment of, not as a defense to, liability). [American Steamship's Reply Brief, p. 19 (emphasis in original).]

I.

"FAULT" UNDER *UNITED STATES V. RELIABLE TRANSFER CO.* MUST BE APPORTIONED AS A FUNCTION OF BOTH IMPROPER CONDUCT AND "CAUSATIVE POTENCY."

Prior to this Court's adoption of the comparative fault rule in *Reliable Transfer*, a number of ameliorative doctrines had been utilized to mitigate the harshness of the divided damages rule. These doctrines were largely based on relative disparity of contributory cause, and are now obsolete in a comparative fault system.

The notion of "fault" itself implies blameworthy conduct that causes or contributes to a loss. Blameworthy conduct that is non-causative provides no basis for liability, *Blue Jacket*, 144 U.S. 371 (1892), *The Sea Gull*, 90 U.S. (23 Wall.) 165 (1874), and it is error for non-causative negligence to be factored into apportionment. *Hellenic Lines, Ltd. v. Prudential Lines, Inc.*, 813 F.2d 634 (4th Cir. 1987); *Inter-Cities Navigation Corp. v. United States*, 608 F.2d 1079 (5th Cir. 1979). Where blameworthy conduct is found to be causative of a loss, there is "fault" to be apportioned; the remoteness or directness of the cause should be a factor in apportionment.

Reliable Transfer sounded the death-knell for doctrines such as the "major-minor fault rule," *Western Pacific Fisheries, Inc. v. S.S. President Grant*, 730 F.2d 1280, 1287-88 (9th Cir. 1984), and the active-passive negligence doctrine. *Self v. Great Lakes Dredge & Dock Co.*, 832 F.2d 1540 (11th Cir. 1987). The last clear chance rule likewise is no longer needed, for the very reason that the differences in causative responsibility underlying that doctrine can be better accounted for in apportionment of fault. *Prudential Lines, Inc. v. McAllister Bros., Inc.*, 801 F.2d

616 (2d Cir. 1986); *Commercial Union Ins. Co. v. M/V Bill Andrews*, 624 F.2d 643 (5th Cir. 1980).

For the same reason, the differences in relative proximity of cause reflected in the doctrine of superseding cause should be accounted for not in the determination of the *existence* of fault, but in *apportionment* of fault, as the Eleventh Circuit held in *Hercules, Inc.*, 765 F.2d at 1075. In English admiralty, which has utilized apportionment of fault since 1911, it has long been established that both "blameworthy conduct" and "causative potency" are weighed. Brandon, *Apportionment of Liability in British Courts under the Maritime Conventions Act of 1911*, 51 Tul. L. Rev. 1025, 1031 (1977).[10]

In our case, the assignment of twice as much fault to the *Buffalo* fails to reflect the paramount causal significance of the *Jupiter*'s role in converting the occurrence into an explosive catastrophe and of Total Petroleum's role in maintaining an ineffective mooring post to permit the episode to occur at all. This was the core of the apportionment issue raised on appeal. Petitioner was effectively denied review of the issue, however, as a result of the circuit court's failure to recognize superseding causation as a factor in *apportioning* fault as opposed to a defense for exonerating a party from all fault.

The district court had based its fault apportionment on the fact that the passage of the *Buffalo* "instigat[ed] the entire chain of events," and it cited *Creole Shipping Ltd. v. Diamandis Pateras Ltd.*, *supra*, in which predominant fault was apportioned to a passing vessel for damage to the gangway and other appurtenances of a negligently moored vessel (App. C, 133a).

---

10. "The degree of fault is not to be measured by counting up the number of faults on each side. It is to be measured by assessing both their blameworthiness and their causative effect." *The Konigen Juliana*, 2 Lloyd's Rep. 353, 356 (1974).

While *Creole Shipping* did involve a mooring failure, it did not feature any consequential disaster emanating from any separate fault. Petitioner cited *Lone Star Industries*, *supra*, to illustrate the difference between the comparatively minor initial damage (analogous to the limited damage in *Creole Shipping* and what might have been in this case) and the ultimate damage, substantially greater and different in kind, that resulted from another party's superseding negligence.

In *Lone Star Industries*, a barge owner whose barge sunk during unloading claimed to have been damaged by the initial, instigating negligence of the tug that cracked the stern of the barge. The district court in *Lone Star* assigned predominant fault to the tug on that basis, just as the district court in this case relied on the initial, instigating negligence of the *Buffalo*. However, due care required the barge owner to inspect his hull prior to unloading to protect against avoidable loss of cargo, just as due care required the *Jupiter* crew to maintain protection of the cargo tanks to protect against avoidable explosions. The *Jupiter* crew's failure to close ullage pipes in preparation for a vessel passage, in case of fire, was negligence of overriding causal significance no less than was the barge owner's negligent failure to inspect the hull prior to unloading, in case it was damaged in transit. The Eighth Circuit in *Lone Star* concluded that the damage for which the tug was responsible was a crack in the hull, not the loss of the barge and its cargo. 927 F.2d at 1461.

In advancing this comparison below, petitioner did so expressly in the context of apportionment, contending that differences between the causal significance of two or more parties' actions, as reflected in superseding cause situations, must be accounted for in the apportionment of fault (*Hercules, Inc.*), rather than as an exonerating defense (*Lone Star Industries*). As noted, the Sixth Circuit dismissed this argument

out of hand, stating that it "sounds very much like a superseding cause defense." (App. A, 14a, n. 6).[11]

After declining to address petitioner's analysis based on *Lone Star Industries*, the opinion proceeds to misapprehend the fundamental causation issue. In support of the allocation of twice as much fault on the *Buffalo* as was allocated to the *Jupiter*, the opinion states, "The risk of deck-fire and explosion was well on its way to fruition before the *Jupiter*'s negligence made its contribution to the disaster." (App. A, 15a). The risk of a deck-fire and the risk of explosion, however, are not a single, conglomerate "risk," but are in fact two distinct risks. The risk of deck-fire is something that is foreseen. The vessel was equipped with a foam fire-fighting system to respond to this very risk. Non-defective flame screens themselves are required due to the existence of this risk. There is no substantial risk, however, or at least there should have been no substantial risk, that the vessel itself would explode. Absent the *Jupiter*'s negligence in failing to seal off the main cargo tanks, there was no risk of explosion.

The causation issue as between the *Buffalo* and Total Petroleum is founded in foreseeability, and was likewise misapprehended by the circuit court. In noting that "Total's negligence created the same danger as did the *Buffalo*'s speeding: both risked a breakaway by the *Jupiter*" (App. A, 14a), the court passed over the disparity in each party's *foreseeability* of the risk.[12]

---

11. The opinion was authored by the Honorable John R. Gibson, of the Eighth Circuit Court of Appeals, sitting on the Sixth Circuit court by designation (App. A, 2a). Judge Gibson was on the three judge panel that issued *Lone Star Industries, supra*.

12. Petitioner's brief to the Court of Appeals stated, "[F]rom the (Cont'd)

In *Petition of Kinsman Transit Company*, 338 F.2d 708 (2d Cir. 1964), *cert. denied*, 380 U.S. 944 (1965), a wharfinger, an owner of a moored vessel, and the City of Buffalo, were all found to be at fault for flood damage that occurred as a result of their combined negligence. The wharfinger was negligent for improperly installing and maintaining a mooring device, the vessel owner was negligent for failing to anchor the boat during a winter storm, and the city was negligent for failing to raise a bridge in time to prevent the drifting vessel from crashing into it and causing a dam effect, all resulting in ice jams and flooding nearly three miles up river. The last and most direct cause of the flooding was the city's fault in failing to raise the bridge.

The heated issue over which the majority and dissenting opinions disagreed was whether the flooding damage that resulted from the vessel breakaway could be legally attributed to the wharfinger and the moored vessel. While their combined negligence undeniably was a "cause-in-fact," the issue turned on the foreseeability of the kind and extent of the ultimate damage. 338 F.2d at 724-725; *id.*, at 728 (Moore, J., dissenting). Because of the equal division of damages rule in force at the time, the issue of foreseeability was an all or nothing proposition; either liability would be imposed, or it would not be.

(Cont'd)

perspective of the *Buffalo*, even assuming a negligent passage, was it substantially foreseeable that a tanker, off-loading a petroleum product, would be moored to a 90-95% dry-rotted post? That the crew of the tanker would leave the openings to the main cargo tanks unprotected? *That both of these conditions would exist at the same time*? CTI, along with TOTAL, was engaged in an ultra-hazardous activity and was in the paramount position to best foresee and prevent precisely what occurred in this case." (Reply Brief, p. 21). Petitioner concluded, "[G]iven the fact that the risk of vessel breakaway was not only a clearly foreseeable event but a *known* fact at this dock by reason of repeated past occurrences, TOTAL's inability to meet its basic due care requirement of providing a reasonably safe dock must be regarded as a wanton disregard of its duty." (*Id.*, p. 24).

Petitioner submits that *Kinsman Transit*'s facts, had they been presented after *Reliable Transfer*, would not have engendered such a heated debate. The relative contribution of each party's fault in causing the ultimate harm would be accounted for in the *apportionment* of liability. The degree of a party's "fault" for a particular loss is necessarily dependent upon the extent to which the loss was foreseeable by the party; as foreseeability diminishes, relative fault must also diminish.

As was recognized in *Kinsman Transit*, 338 F.2d at 724-25 n. 10, fault is founded on foreseeability, and for it to have any "functional significance," foreseeability must be "viewed as of the time of the negligent act" since that is when the actor is "able to amend his conduct so as to avert the consequences."[13] *Accord*, *Reliable Transfer*, 421 U.S. at 405 n. 11. This is the premise of the admiralty policy of placing the risks of loss on those who are in the best position to reduce the likelihood of injury. *East River Steamship Corp. v. Transamerica Delaval, Inc.*, 476 U.S. 858, 866 (1986); *Italia Societa per Azioni di Navigazione v. Oregon Stevedoring Company*, 376 U.S. 315, 324 (1964); *Cumberland County v. M/T Delbar*, 604 F. Supp. at 389.

It was the *Buffalo*'s duty in this vessel passage situation to proceed at such a rate of speed and at such a distance as to avoid creating unusual suction or swell which would damage a vessel *properly moored*. *O'Donnell Transportation Co. v. M/V*

---

13. Of particular relevance to this case is this observation by the *Kinsman Transit*'s court regarding the foreseeability of damage:

> The point of *Palsgraf* was that the appearance of the newspaper-wrapped package gave *no notice* that its dislodgement could do any harm save to itself [*Jupiter*] and those nearby [Total dock], *and this by impact*, perhaps with consequent breakage, and *not by explosion*. [338 F.2d at 721-22 (emphasis added).]

Maryland Trader, 228 F. Supp. 903, 909 (S.D.N.Y. 1963); *The Rotherfield*, 123 F. 460, 461 (S.D. Ala. 1903). While the Court of Appeals affirmed the finding that the *Buffalo* violated "slow — no wake speed" regulations, thus invoking the rule of *The Pennsylvania*, 86 U.S. (19 Wall.) 125 (1874), to presume that the *Buffalo*'s speed contributed to the occurrence (App. A, 6a-9a), it nevertheless was established and found as fact that the *Buffalo*'s speed was *not* so excessive as would have caused damage to the *Jupiter* had it been a vessel properly moored; if tied to a non-rotten number four mooring bollard, the *Jupiter* would have withstood this passage (App. C, 126a-127a).

By contrast, Total Petroleum was primarily responsible for the transfer of millions of gallons of gasoline on a platform perilously close to a busy shipping channel. That its white oak mooring bollards had finite life spans before they would become rotten and ineffective was known by Total, yet Total kept no records for knowing the ages of its mooring posts, had no replacement schedule, and had no established process or program for discovering when any particular post ceased to be useful. Its repair history revealed that dock "maintenance" always occurred as a *result* of calamity (previous vessel breakaways — *supra*, p. 4), not as a precaution to *avoid* calamity.

In accord with admiralty policy, primary responsibility should have been placed on Total as the party best situated to prevent the breakaway. Total was best situated to foresee the occurrence of heavy loads being placed on its mooring bollards by tankers at its pier — whether due to passing vessels, strong current, high winds, or any combination of factors, and was best situated to foresee the consequences of allowing its bollards to become ineffective. Total could reasonably foresee the *Buffalo*'s heavy surge force; the *Buffalo* could not so readily foresee a 90-95% dry-rotted mooring post.

Total's comparatively higher fault in failing "to amend [its] conduct so as to avert the consequences" should have been addressed in the district court's apportionment analysis, and should not have been passed over by the Court of Appeals.

II.

THE ADMISSIBILITY OF COAST GUARD REPORTS IS NOT BARRED BY ANY ACT OF CONGRESS; THEREFORE, IN LIGHT OF *BEECH AIRCRAFT CORP. V. RAINEY*, THE ULTIMATE FINDINGS AND CONCLUSIONS IN COAST GUARD REPORTS ARE ADMISSIBLE INTO EVIDENCE.

A conflict exists among the admiralty courts as to whether conclusions contained in official investigative reports of the United States Coast Guard are admissible into evidence in trials arising from marine casualties. One view, reflected by the Ninth Circuit's decision in *Huber v. United States*, 833 F.2d 398 (9th Cir. 1988), holds that Coast Guard conclusions are inadmissible. The opposite holding was more recently reached in *Puerto Rico Ports Authority v. M/V Manhattan Prince*, 897 F.2d 1 (1st Cir. 1990); *M/T BT Nautilus*, 862 F. Supp. 1251 (D.N.J. 1994), and *Taylor v. Bouchard Transp. Co.*, 1991 A.M.C. 2423 (S.D.N.Y. 1991).

In this case, the Sixth Circuit affirmed the lower court's exclusion of the Coast Guard's conclusions, endorsing the Ninth Circuit's decision in *Huber* and rejecting the analysis of the court in *M/T BT Nautilus* (App. A, 15a-17a).

There is seldom any dispute as to the relevance of the Coast Guard's conclusions (Fed. R. Evid. 401). Indeed, because the Coast Guard's findings are based on prompt investigation by independent experts following marine accidents, the reports are

routinely offered into evidence and, almost always, the admissibility of the ultimate findings and recommendations is litigated.

Congress has authorized the Coast Guard "to promulgate and enforce regulations for the promotion of safety of life and property on and under the high seas." 14 U.S.C. § 2. Pursuant to that authority, the Coast Guard has issued regulations that establish the procedures it must follow whenever a marine casualty occurs. 46 C.F.R. § 4.07 (1994). These regulations require Coast Guard personnel to investigate into and report on the causes of marine casualties, specifically to determine, as closely as possible, "the cause of the accident," "whether there is evidence that any failure of material (either physical or design) was involved or contributed to the casualty . . ." and "whether there is evidence that any . . . negligence . . . on the part of any licensed or certified man contributed to the casualty . . ." 46 C.F.R. § 4.07-1(c) (1994). (App. A, 15a-16a, n. 8).

Petitioner sought the admission of the Coast Guard's conclusions, wherein the Coast Guard's highly trained personnel, based on exhaustive investigation and extensive hearings conducted *immediately* after the incident, attribute no fault to petitioner's licensed personnel, find "the probable cause" of the accident to be the failure of Total Petroleum's dry-rotted mooring post, and find the cause of the explosions to be "improperly installed flame screens" on the *Jupiter* (App. F, 147a-152a).

Pursuant to Fed. R. Evid. 402:

> All relevant evidence is admissible, except as otherwise provided by the Constitution of the United States, by Act of Congress, by these rules, or by other rules prescribed by the

> Supreme Court pursuant to statutory authority. Evidence that is not relevant is not admissible.

There has been no challenge to the relevancy of the Coast Guard's above findings, and in light of this Court's decision in *Beech Aircraft Corp. v. Rainey*, 488 U.S. 153, 163 (1988), the hearsay rule does not operate to bar their admission because they are "factual findings" within the meaning of the public records exception. Fed. R. Evid. 803(8). *Bank of Lexington & Trust Co. v. Vining-Sparks Securities, Inc.*, 959 F.2d 606, 616 (6th Cir. 1992).

The basis of the lower courts' exclusion of the Coast Guard's conclusions from evidence was 46 C.F.R. § 4.07-1(b):

> The investigations of marine casualties and accidents and the determinations made are for the purpose of taking appropriate measures for promoting safety of life and property at sea, and are not intended to fix civil or criminal responsibility.

By its terms, the regulation does not prohibit the use of Coast Guard reports at trial. While it establishes that the Coast Guard's determinations shall not be conclusive in a court of law, the mere admission of such relevant evidence for consideration with all other relevant evidence, should not be barred.

The Ninth Circuit's opinion in *Huber*, on which the lower courts in this case relied, considered the admissibility of Coast Guard reports and the admissibility of National Transportation Safety Board (NTSB) reports together, failing to distinguish their materially different regulatory provisions. Reports of the NTSB are subject to a specific Act of Congress, which, unlike the

subject Coast Guard regulation, does indeed purport to bar their admission into evidence:

> *No part* of any report of the [NTSB] Board, relating to any accident or the investigation thereof, *shall be admitted as evidence or used in any suit or action for damages* growing out of any matter mentioned in such report or reports.

49 U.S.C. § 1903(c) (emphasis added). Unquestionably, this is the type of "act of Congress" envisioned by Fed. R. Evid. 402.

Yet, despite the clear and comprehensive language of the NTSB provision, the policies favoring admissibility of relevant evidence in the federal courts have led the courts to strictly construe the evidentiary bar of Fed. R. Evid. 402 and permit admission of substantial parts of NTSB investigative reports. *Keen v. Detroit Diesel Allison*, 569 F.2d 547 (10th Cir. 1978); *Protectus Alpha Navigation Co. v. North Pacific Grain Growers, Inc.*, 767 F.2d 1379, 1384-85 (9th Cir. 1985).

In light of the extremely narrow construction applied to Fed. R. Evid. 402, the subject Coast Guard regulation should not be construed to constitute an outright bar to the admissibility of Coast Guard investigative conclusions. This Court should grant review in this case to address this important issue.

CONCLUSION

Petitioner is fully aware that this Court does not sit as an error correcting court. The role of proximate causation in apportionment of fault under *Reliable Transfer* has never been clear in American admiralty law, and the issue is now ripe for review. Petitioner presented this issue to the Sixth Circuit, but

was effectively denied review. As a result, an imposition of predominant fault on American Steamship was affirmed despite the substantially greater "causative potency" in the faults of Total Petroleum and Cleveland Tankers.

This Court has granted certiorari in *Exxon Company, U.S.A. v. Sofec, Inc.*, 116 S. Ct. 493 (No. 95-129, 1995), to decide whether the doctrine of superseding cause is viable after *Reliable Transfer* as a means for avoiding the *existence* of fault. Assuming it does not, it necessarily follows that the substantial disparity of causative potency imbued in that doctrine must be given meaning in the *apportionment* of fault. The facts of this case provide the Court a timely opportunity to address and clarify this core concern in admiralty law.

Petitioner, American Steamship Company, respectfully requests the Court to grant its petition for writ of certiorari to review the judgment of the United States Court of Appeals for the Sixth Circuit and to address the important issues presented; in the alternative, the Court should hold the petition in abeyance pending its decision in *Exxon Company (U.S.A.) v. Sofec, Inc.*, then either grant the instant petition or remand the case for reconsideration in light of *Exxon*.

Respectfully submitted,

DANIEL S. SAYLOR
Counsel of Record
THOMAS W. EMERY
GARAN, LUCOW, MILLER,
SEWARD & BECKER, P.C.
Attorneys for Petitioner
1000 Woodbridge Place
Detroit, Michigan 48207-3192
(313) 446-5520

APPENDIX A — OPINION OF THE UNITED STATES COURT OF APPEALS FOR THE SIXTH CIRCUIT DATED OCTOBER 19, 1995

RECOMMENDED FOR FULL - TEXT PUBLICATION
Pursuant to Sixth Circuit Rule 24

ELECTRONIC CITATION: 1995 FED App. 0311P (6th Cir.)
File Name: 95aO311p.O6

No. 93-1925

UNITED STATES COURT OF APPEALS
FOR THE SIXTH CIRCUIT

In re: CLEVELAND TANKERS, INC., as owner and operator of the M/V "JUPITER," for exoneration from or limitation of liability.

NEW CONNECTICUT BANK & TRUST, et al.,

Plaintiffs,

v.

ABDUL MUSSA, et al.,

Appellees,

CLEVELAND TANKERS, INCORPORATED; TOTAL PETROLEUM, INCORPORATED,

Defendants-Appellees,

AMERICAN STEAMSHIP COMPANY,

Defendant-Appellant.

Appendix A

ON APPEAL from the United States District Court for the Eastern District of Michigan

Decided and Filed October 19, 1995

Before: NELSON, BOGGS, and GIBSON,* Circuit Judges.

JOHN R. GIBSON, Circuit Judge. American Steamship Company, owner of the bulk carrier ship, the *Buffalo*, appeals from a judgment holding it liable for fifty percent of the damages from an explosion that occurred when the *Buffalo* passed the *Jupiter*, a tankship that was moored and unloading its cargo of gasoline. As the *Buffalo* passed, the *Jupiter* swung loose from its dock, rupturing both the hose transferring the gasoline to the shore and an electrical cord leading from shore to the ship. A spark from the ruptured cord ignited the spilled gasoline and caused the *Jupiter's* cargo of gasoline to explode. American Steamship argues that the district court[1] used a legal standard of care applicable only to passing a properly moored ship, whereas the *Jupiter* was improperly moored. American Steamship also claims that the district court erred in apportioning liability between American Steamship; Total Petroleum, Inc., the wharfinger; and Cleveland Tankers, Inc., owner of the *Jupiter*.[2] Finally, American Steamship contends that the district court erred in excluding from evidence the analysis and conclusions section of the Coast Guard report on the accident. We affirm.

---

* The Honorable John R. Gibson, Circuit Judge of the United States Court of Appeals for the Eighth Circuit, sitting by designation.

1. The Honorable Patrick J. Duggan, United States District Judge for the Eastern District of Michigan.

2. Fireman's Fund Insurance Companies is also an appellee. It insured the *Jupiter's* cargo, and is subrogated to Total's claim for the lost cargo.

Appendix A

On September 16, 1990, at 1:45 in the morning, the *Jupiter* moored at the Total Petroleum facility on the Saginaw River in Bay City, Michigan to unload its cargo of 56,000 barrels of gasoline.

The *Jupiter's* crew moored the ship with six lines: four wire rope cables attached to winches on the *Jupiter* and two polypropylene lines. The crew began unloading the gasoline to Total's shore facility by pumping it through a hose running from the ship to a pipe on shore. The *Jupiter's* crew monitored the progress of the cargo transfer by means of "ullage pipes," openings from the deck to the hold that permitted the crew to gauge the contents of the hold. There was a "motor-operated valve" to shut off the pipeline on shore from the tanks behind it; the controls to the motor-operated valve were at the end of an electrical cord that was draped over a rail on the *Jupiter*.

During the early morning hours of September 16 another ship, the *Clymer,* passed the *Jupiter* without incident.

Later that morning, the *Buffalo* entered the Saginaw River from Lake Huron and started upstream toward the *Jupiter*. The speed at which the Buffalo was going as it approached and passed the *Jupiter* is the subject of a great deal of conflicting testimony, both eyewitness and expert. As the *Buffalo* approached the *Jupiter*, the water level rose about four feet, causing the *Jupiter* to surge forward slightly, then backward. As the Buffalo passed abeam of the *Jupiter*, the *Jupiter* surged forward so that the hindmost mooring wire (the "number four" wire) tautened. The number four wire was moored to the center piling (the "kingspile") on the "number four" cluster of pilings. When the number four wire grew too taut, the number four kingspile snapped, releasing both the number four wire and one of the

polypropylene lines and leaving the *Jupiter* without any moorings at its stern. The stern swung out away from the dock, stretching the cargo hose until it also broke, spilling its contents (120-300 gallons of gasoline) on the pier and on the *Jupiter's* deck. At the same time, the electric cord for the motor-operated valve stretching from the wharf to the ship broke and spewed sparks that ignited the spilled gasoline on the pier. Fire quickly spread from the pier along the cargo hose to the *Jupiter's* deck. The fire traveled through the ullage pipes to the cargo, causing three explosions.

Several men were injured and one drowned. The *Jupiter* and her cargo were lost and the Total Petroleum pier was damaged in the fire.

American Steamship and Cleveland Tankers both filed for limitation of, or exoneration from, liability under 46 U.S.C. App. § 183(a) (1988), the Limitation Act. Under the Limitation Act, a ship owner is entitled to exoneration if he, his vessel, and crew are found to be completely free of fault. *In re Complaint of Caribbean Sea Transport, Ltd.*, 748 F.2d 622, 626 (11th Cir. 1984), *modified on other grounds*, 753 F.2d 948 (11th Cir. 1985). Even if not completely free from fault, the ship owner is entitled to limitation of liability if the ship owner had no knowledge of or privity to the ship's negligence or unseaworthiness. *S & E Shipping Corp. v. Chesapeake & Ohio Ry. Co.*, 678 F.2d 636, 642 (6th Cir. 1982); *M/V Sunshine II v. Beavin*, 808 F.2d 762, 764 (11th Cir. 1987). The burden of proving negligence lies on the person claiming to be injured, but once negligence is established, the vessel's owner must prove lack of knowledge or privity to the negligence. *Id.*

After a twenty-nine-day trial, the district court held that the

Buffalo was negligent in going too fast as it passed the *Jupiter* and that the surge due to the excessive speed caused the accident. The district court held that Total Petroleum and Cleveland Tankers were also negligent and that their negligence contributed to the accident. Total Petroleum owned and maintained the pier. The pier's number four kingspile, which broke, was 90-95% rotten. The court specifically found that the dry rot in the kingspile was a proximate cause of the accident and that Total had unreasonably failed to discover the dry rot before the accident. The court also found the *Jupiter* was unseaworthy because the flame screens in the ullage pipes, which were intended to protect the cargo from fire on deck, were not fitted closely enough in the pipe to carry out their intended function. Furthermore, the court found that the *Jupiter's* crew was negligent in failing to close the caps on the ullage pipes while the *Buffalo* passed, and that this failure contributed to the accident by providing a pathway for the flames from the deck to the cargo. The court found that neither Cleveland Tankers nor American Steamship had borne its burden of proving it had no privity to its vessel's negligence.

The district court apportioned liability on the basis of fault under *United States v. Reliable Transfer Co.*, 421 U.S. 397 (1975). The court found the distribution of fault to be fifty percent to the *Buffalo*, and twenty-five percent each to the *Jupiter* and Total Petroleum.

I.

American Steamship's principal argument is that the district court based its finding of negligence on a standard of care that was not pertinent to the facts of this case. It argues that the court applied a presumption from *O'Donnell Transportation Co. v. M/V Maryland Trader*, 228 F. Supp. 903, 909 (S.D.N.Y. 1963),

that a ship must proceed so as to do no harm to a properly moored vessel, whereas the defective condition of the number four kingspile made the *Jupiter* an *improperly* moored vessel. What a passing ship's duty is to an improperly moored vessel is an interesting question, as is the issue of whether a vessel is improperly moored if properly tied to a defective dock. Nevertheless, given the actual disposition of this case, those questions need not be reached. The court in this case did recite the *O'Donnell* test and did rely upon it in holding the *Buffalo* negligent. At the same time the court also found the *Buffalo* negligent using a completely independent and sufficient test, stating that if a vessel violates a written statutory or administrative rule of navigation designed to prevent collisions, the burden is on the vessel at fault to show that its violation could not have been a contributing cause of the collision. *The Pennsylvania,* 86 U.S. (19 Wall.) 125, 136 (1874). The court explicitly found that "the *Buffalo* passed by the *Jupiter* at an excessive rate of speed in violation of the Inland Navigation Rules Act, the Navigation Safety Regulations,[3] the Michigan

---

3. The court applied 33 C.F.R. § 164.11 (1990), which provided:

> The owner, master, or person in charge of each vessel underway shall ensure that:
>
> . . .
>
> (p) The person directing the movement of the vessel sets the vessel's speed with consideration for:
>
> (1) The prevailing visibility and weather conditions;
>
> (2) The proximity of the vessel to fixed shore and marine structures;

(Cont'd)

Marine Safety Act, the Bay City Code, and the ordinances of the Township of Bangor and the City of Essexville."[4]

(Cont'd)

(3) The tendency of the vessel underway to squat and suffer impairment of maneuverability when there is small underkeel clearance;

(4) The comparative proportions of the vessel and the channel;

(5) The density of marine traffic;

(6) The danger that might be caused by the vessel's wake;

(7) The strength and direction of the current; and

(8) Any local vessel speed limit.

4. The court took notice of the relevant provisions of local law:

At trial, this Court took judicial notice of certain state statutes and local ordinances governing vessel speed. The BUFFALO was subject to the Michigan Marine Safety Act, Mich. Comp. Laws § 281.1001, *et seq.*, which provides for the enactment of local ordinances regulating the use of vessels. The Act provides, in part:

> A person operating or propelling a vessel upon the waters of this state shall operate it in a careful and prudent manner and at such a rate of speed so as not to endanger unreasonably the life or property of any person. A person shall not operate any vessel at a rate of speed greater than will permit him, in the exercise of reasonable care, to bring the vessel to a stop within the assured clear distance ahead. A person shall not

(Cont'd)

The court found that the *Buffalo's* violation of these rules in passing at excessive speed was "a proximate cause of the accident which occurred on September 16, 1990." Specifically, the court found that the explosion resulted from the rupture of the gasoline hose and electrical lines, which in turn resulted from the *Jupiter's* response to hydrodynamic forces caused by the "speed of the *Buffalo* and the proximity with which she passed the *Jupiter*." These findings amply satisfy the *Pennsylvania* standard for liability, making it unnecessary to determine whether the court may have erred in applying the *O'Donnell* presumption to a vessel moored to a defective dock. Thus, even if the court erred in applying the *O'Donnell* test inappropriately,

---

(Cont'd)

> operate a vessel in a manners [sic] so as to interfere unreasonably with the lawful use by others of any waters.

Mich. Comp. Laws § 281.1072. The Act further defines a "slow — no wake speed" as "a very slow speed whereby the wake or wash created by the vessel would be minimal." Mich. Comp. Laws § 281.1008(b).

Pursuant to the Marine Safety Act, various political subdivisions of Bay County had enacted vessel speed ordinances. While transitting the stretch of river off Total's dock, the BUFFALO was also subject to the Bay City Code. *See* Bay City Code § 23-8(b) (no watercraft may operate at speed "which causes waves to damage docks, . . . or other watercraft"). Likewise, the BUFFALO was subject to laws enacted by the City of Essexville. The City of Essexville created a water traffic ordinance effective September of 1981 to regulate the speed of vessels. Section 9.71 of the ordinance provides:

> On the waters of the Saginaw River located within the City limits of Essexville, Michigan, Bay county, it is unlawful for the operator of a vessel to exceed a slow - no wake speed.

(Cont'd)

the *Pennsylvania* holding provides an adequate ground for its ruling. "[A] reviewing court can sustain the judgment of a lower court on any ground that finds support in the record." *United States v. Anderson County,* 761 F.2d 1169, 1174-75 (6th Cir.), *cert. denied,* 474 U.S. 919 (1985).

II.

American Steamship next contends that the district court erred in finding that the *Buffalo* was traveling six to nine miles per hour as it passed the *Jupiter,* and that it created a wake.

We may set aside a district court's findings of fact in an admiralty proceeding only if they are clearly erroneous. *United States v. Paducah Towing Co.*, 692 F.2d 412, 421 (6th Cir. 1982). "[A] finding is 'clearly erroneous' when although there is evidence to support it, the reviewing court on the entire evidence is left with the definite and firm conviction that a mistake has been committed. . . . Where there are two permissible views of the evidence, the factfinder's choice between them cannot be clearly erroneous." *Anderson v. City of Bessemer City,* 470 U.S. 564, 573-74 (1985) (internal quotations and citation omitted).

The district court discussed at length the eyewitness and expert testimony on both sides of the hotly contested question about the speed of the *Buffalo* as it passed the *Jupiter*. The district court based its finding of excessive speed on the testimony of three eyewitnesses and two experts. The court specifically rejected the testimony of two eyewitnesses American Steamship relied on (one partly on the basis of his demeanor) and of the

---

(Cont'd)

Finally, the BUFFALO was subject to Bangor Township Ordinance No. 134, Rule 5 (unlawful to exceed slow — no wake speed in waters of township). [Transcript citations omitted.]

Buffalo's captain, MacFalda.[5] These credibility judgments are particularly the province of the district court, with only a narrow scope for appellate intervention when a district court has relied on testimony that simply cannot be believed. *See Anderson,* 470 U.S. at 575 ("[D]ocuments or objective evidence may contradict the witness' story; or the story itself may be so internally inconsistent or implausible on its face that a reasonable fact-finder would not credit it. Where such factors are present, the court of appeals may well find clear error even in a finding purportedly based on a credibility determination."). This case does not present that situation. Here, the testimony of different witnesses directly contradicted each other, and the district court made a necessary choice between two versions.

The district court gave good reasons for rejecting American Steamship's expert testimony that the *Buffalo* was traveling about three miles per hour. The court rejected the testimony both because it contradicted other expert testimony and because American Steamship's expert conceded that he failed to consider relevant factors and that the *Jupiter* would not have surged at all if the *Buffalo* had only been travelling 3.3 miles per hour.

American Steamship argues that the eyewitness testimony concerning excessive speed is discredited by pictures taken at the time of the accident that show no wake on the *Buffalo's* bow. The pictures themselves demonstrate that they were taken when the *Buffalo* was well past the *Jupiter*. Of the series of twelve photographs, only one shows the bow of the *Buffalo,* partly concealed by the guard rails of a bridge. Rose Cooper, who took the pictures, testified that she and her husband had stopped their car on the bridge because the draw bridge was up. They saw the

---

5. The court also found that the "excessive speed of the *Buffalo* on September 16, 1990, was not an isolated event. She had developed a reputation for proceeding in the Saginaw River at such rates of speed."

Buffalo coming toward them. Cooper got out of the car when she saw a flash out of the corner of her eye. She saw a fire had started and so began taking pictures. Cooper observed the *Buffalo* through the lens of her camera as it moved beyond the *Jupiter*, and the *Buffalo* seemed to be moving slowly. From studying the photographs, she concluded the *Buffalo* sped up after the fire started, because in the later pictures there was more water moving behind the boat. The district judge made no specific findings with reference to Cooper's testimony or the pictures. The essence of American Steamship's argument is that the photographs trump the testimony on which the district court based its findings. From viewing the photographs and considering the testimony before the district court, we are not persuaded that the photographs, taken after the passage and in which the relevant area (the *Buffalo's* bow) is partially obscured, required the court to reject the eyewitness testimony concerning the wake the *Buffalo* created. A number of eyewitnesses testified that they saw a significant "swell," "draft," or "wake" on the *Buffalo's* bow or that it was "pushing the water on [its] bow" as it passed. The pictures were not taken at the proper moment in time to require the district court to reject testimony it found to be otherwise credible.

There was ample basis for the district court's conclusion that the *Buffalo* was travelling six to nine miles per hour. Under the clearly erroneous standard, we may not reverse.

III.

American Steamship next argues that the district court erred in apportioning fault among the *Buffalo*, the *Jupiter*, and Total Petroleum. American Steamship contends that Total's fault in failing to adequately inspect the pilings in its docks and the *Jupiter's* fault in not closing off the ullage pipes or having better

flame screens outweighed any fault of the *Buffalo*. American Steamship contends that, although the district court found the *Jupiter* negligent in leaving the ullage caps open and in using ill-fitting flame screens in its ullage pipes, the court did not recognize that the negligence of Total and the *Jupiter* changed the nature of the accident from a minor break-away incident to a catastrophic explosion. American Steamship also continues its attack on the district court's fact findings in rejecting American Steamship's other allegations of negligence by the *Jupiter*.

Key to our consideration of this point is the limited standard of review. The district court's apportionment of fault is subject only to review under the clearly erroneous standard, unless the court applied the wrong legal standard. *Interstate Towing Co. v. Stissi*, 717 F.2d 752, 753 (2d Cir. 1983).

American Steamship makes two sorts of factual-error arguments. First, it argues that the district court erred in rejecting two of American Steamship's claims that the *Jupiter* was negligent. Specifically, American Steamship claims the district court should have found the *Jupiter* negligent in its handling of the number three winch. The court held that the *Jupiter* would not have prevented the accident by heaving on the number three winch when the ship was surging forward, since the number three wire was leading forward and heaving on it would have accelerated the forward motion. American Steamship argues that the court should have found negligence in the handling of the winch during the *Jupiter's* movement *backward*, before the disastrous forward surge. American Steamship claims that the computer models of Professor Armin Troesch prove that *Jupiter* crewman Skinner must have released the brake on winch number three, permitting the number three wire to unwind freely so that the *Jupiter* moved nine feet aft. Professor Troesch's computer model is based on numerous assumptions, extrapolated from the

various estimates the eyewitnesses gave. Varying the values of Troesch's assumptions (e.g., whether the *Buffalo* was traveling eight miles per hour or some other speed, whether the aft surge was nine feet or some other distance) would change his results. On the other hand, Skinner's own testimony is that he did not arrive at the winch controls until the ship was moving forward and the number four kingspile was bending over, on the verge of breaking. Again, in essence, American Steamship is attempting to give preemptive weight to its expert testimony. The testimony at most simply conflicts with other evidence that the district court chose to believe. We have reviewed the underlying evidence and hold the district court's finding was not clearly erroneous.

American Steamship also argues that the court erred in failing to find that the *Jupiter* could have prevented the fire by closing the motor-operated shoreside valve and shutting off the tanks from the transfer hose. American Steamship claims that, had the *Jupiter* shut off the motor-operated valve, gasoline would not have flowed back from the tanks through the hose to spill on the deck and there would not have been enough gasoline on the *Jupiter's* deck to fuel the fire. This argument depends on an assumption, which Cleveland Tankers disputes, that the contents of the hose would not have spilled out without back pressure from the tanks on shore.

In its reply brief, American Steamship switches from the argument that the gasoline would not have flowed onto the deck if the motor-operated valve had been off to the argument that the gasoline would not have flowed with as great a force as it did. This argument is not inconsistent with the district court's finding that the gasoline contained in the hose itself was sufficient to fuel the fire, which was supported by testimony at trial. The *Jupiter's* Captain Beckwith testified that: "[A] little bit of gasoline puts off

a lot of vapor and your vapor, of course, is what burns." Similarly, First Mate Walton stated: "A little bit of gas goes a long way." The record supports the district court's conclusion that the gasoline in the cargo hose was sufficient to precipitate the explosions.

American Steamship cites *Interstate Towing Co.*, 717 F.2d at 752, and *Cement Division, National Gypsum Co. v. City of Milwaukee*, 915 F.2d 1154 (7th Cir. 1990), *cert. denied*, 111 S. Ct. 1583 (1991), as cases in which an appellate court reversed a district court's allocation of fault. Neither is persuasive in this case. In *National Gypsum*, the district court erred in dividing liability according to amount of property at risk, rather than fault. 915 F.2d at 1159. In *Interstate Towing*, the district court based its allocation in part on a mistaken legal conclusion that one party was only vicariously liable. 717 F.2d at 757. There is no such legal error in this case.

American Steamship also contends that the court erred in allocating fault among the acts of negligence, because it argues that the subsequent negligence of Total and Cleveland Tankers radically changed the nature of the accident.[6] In this case, Total was held to be negligent in maintaining a dock with a rotten piling. Total's negligence created the same danger as did the *Buffalo's* speeding: both risked a breakaway by the *Jupiter* while transferring its flammable cargo.[7] The *Jupiter* was held

---

6. American Steamship's argument sounds very much like a superseding cause defense. However, American Steamship expressly denies relying on a superseding cause theory. Therefore, the case on which American Steamship relies, *Lone Star Industries, Inc. v. Mays Towing Co.*, 927 F.2d 1453 (8th Cir. 1991), a superseding cause case, is not germane.

7. The *Buffalo* had notice that the cargo was flammable because the *Jupiter* was flying a red flag so indicating.

negligent for leaving the ullage pipes open and for having poorly fitted frame screens in the ullage pipes. These acts of negligence came into play only after the *Jupiter* had broken away, the hose had ruptured, and the gasoline had spilled on the deck and ignited. The risk of deck-fire and explosion was well on its way to fruition before the *Jupiter's* negligence made its contribution to the disaster. The district courts allocation of fault is not clearly erroneous.

IV.

Finally, American Steamship argues that the district court erred in refusing to admit the analysis and conclusions section from the Coast Guard report on the accident. *See In re Cleveland Tankers,* 821 F. Supp. 463, 465 (E.D. Mich. 1992).

The Ninth Circuit held in *Huber v. United States,* 838 F.2d 398, 402-03 (9th Cir. 1988), that admitting the conclusions section of a Coast Guard accident report in liability proceedings would defeat the announced purpose of 46 C.F.R. § 4.07- 1(c) (1994)[8] by discouraging Coast Guard personnel from making

---

8. Section 4.07-1(c) provides:

> The investigation will determine as closely as possible:
>
> (1) The cause of the accident;
>
> (2) Whether there is evidence that any failure of material (either physical or design) was involved or contributed to the casualty, so that proper recommendations for the prevention of the recurrence of similar casualties may be made;

(Cont'd)

their most candid assessments of the causes of the accident. Section 4.07-1(c) clearly indicates that the Coast Guard accident report is to be a safety-maximizing tool, not a forensic aid. *In re Complaint of Nautilus Motor Tanker Co.*, 862 F. Supp. 1251, 1256 (D.N.J. 1994), decided not to follow *Huber* because the Coast Guard was not a party to the suit. That court reasoned that the rationale of *Huber* was not applicable where the Coast Guard's interests were not at risk in the proceeding. We read *Huber* more broadly, concluding that the function of the Coast Guard reports is altogether different from that of fixing liability. The Coast Guard report is, to a great extent, forward-looking, since it is meant in part to aid in developing rules to make shipping safer. *See* 46 C.F.R. § 4.07-1(c)(2). In a lawsuit, a court must look backward to facts and rules as known to the actors at the time of the accident. Introducing the Coast Guard's conclusions may confuse the two sorts of inquiries. *Huber's*

(Cont'd)

> (3) Whether there is evidence that any act of misconduct, inattention to duty, negligence or willful violation of the law on the part of any licensed or certificated man contributed to the casualty, so that appropriate proceedings against the license or certificate of such person may be recommended and taken under title 46, U.S. Code, section 239;
>
> (4) Whether there is evidence that any Coast Guard personnel or any representative or employee of any other government agency or any other person caused or contributed to the cause of the casualty; or,
>
> (5) Whether the accident shall be further investigated by a Marine Board of Investigation in accordance with regulations in subpart 4.09.

reasoning is sound and we follow it in affirming the district court's exclusion of the analysis and conclusions section in this case.[9]

. . .

We affirm the judgment of the district court.

---

9. American Steamship's citation of *Beech Aircraft Corp. v. Rainey*, 488 U.S. 153 (1988), is not germane, since *Rainey* was decided under the hearsay rules, not under a specific regulation circumscribing the use of a particular type of government report. *See id.* at 170.

APPENDIX B — ORDER OF THE UNITED STATES COURT OF APPEALS FOR THE SIXTH CIRCUIT DATED NOVEMBER 21, 1995, DENYING REHEARING

Case No. 93-1925

UNITED STATES COURT APPEALS
FOR THE SIXTH CIRCUIT

In re: CLEVELAND TANKERS, INCORPORATED, as owner and operator of the M/V "JUPITER," for exoneration from or limitation of liability

NEW CONNECTICUT BANK & TRUST, et al,

Plaintiff

v.

ABDUL MUSSA; et al,

Appellees

CLEVELAND TANKERS, INCORPORATED; TOTAL PETROLEUM, INCORPORATED;

Defendants - Appellees

AMERICAN STEAMSHIP COMPANY,

Defendant - Appellant

ORDER

BEFORE: NELSON, BOGGS, and GIBSON*; Circuit Judges.

---

* Honorable John R. Gibson Circuit Judge of the Court of Appeals for the Eighth Circuit, sitting by designation.

Appendix B

Upon consideration of the petition for rehearing filed by the appellant,

It is **ORDERED** that the petition for rehearing be, and it hereby is, **DENIED.**

ENTERED BY ORDER OF THE COURT

s/ Leonard Green
Leonard Green, Clerk

APPENDIX C — OPINION OF THE UNITED STATES DISTRICT COURT FOR THE EASTERN DISTRICT OF MICHIGAN, SOUTHERN DIVISION DATED JUNE 9, 1993

UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF MICHIGAN
SOUTHERN DIVISION

CASE NO.: 91-CV-70661-DT

HON. PATRICK J. DUGGAN

IN THE MATTER OF THE PETITION OF CLEVELAND TANKERS, INC., as Owner and Operator of the M/V JUPITER, for Exoneration From or Limitation of Liability

OPINION

This action is the result of an explosion which occurred on board the U.S. Motor Tankship JUPITER on the morning of September 16, 1990. The litigation surrounding the instant petitions for exoneration from, or limitation of, liability was the subject of a 29 day bench trial in the United States District Court, Eastern District of Michigan, from October 13, 1992 to December 22, 1992.

The Opinion which follows determines the respective liabilities of Cleveland Tankers, Inc. (as owner of the JUPITER), American Steamship Company (as owner of the BUFFALO), and Total Petroleum, Inc. (as owner of the dock).[1]

---

1. This Opinion shall determine and apportion liability only. Therefore, the personal injury claimants' damages, the property damages suffered by Total Petroleum, Inc., and the right of Fireman's Fund to indemnification for the sum that it paid to Total Petroleum, Inc. for the loss of the cargo on board the JUPITER shall be determined through a later proceeding regarding damages.

Appendix C

I. BACKGROUND

On September 16, 1990, at 1:45 in the morning, the 392-foot-long United States Motor Tankship JUPITER arrived at the Total Petroleum, Inc. (hereinafter "Total Petroleum") facility in Bay City, Michigan, loaded with 56,000 barrels of unleaded gasoline. (*See* Appendix, Figure One, Saginaw River at Bay City, Michigan).

By 2:05 a.m., the crew aboard the JUPITER had secured the JUPITER, starboard side to the pier heading upstream, and had rigged a boarding ladder. The crew moored the tankship, as they had done before at the Total Petroleum facility, with six lines that consisted of two polypropylene lines and one wire rope cable from each of four constant tension winches. (*See* Appendix, Figure 2, JUPITER's mooring arrangement). After securing the JUPITER to the Total Petroleum pier, the crew prepared to discharge its gasoline cargo.

Between 3:00 and 3:35 a.m., an outbound vessel, the 638-foot-long IRVIN L. CLYMER, passed the JUPITER in the Saginaw River. A watch officer on board the JUPITER ordered the cargo pump stopped and the forward and after tension winch controls manned until the vessel passed clear. The CLYMER passed the JUPITER without incident.

At 6:55 a.m., the 634-foot-long bulk carrier BUFFALO entered the entrance channel to the Saginaw River. The master, the first mate, and the wheelsman were on the bridge. The master, Captain MacFalda, while giving orders to the wheelsman, was operating the engine controls himself. Captain MacFalda testified that he continued at full speed (approximately 11-12 knots according to the third mate) until 8:00 a.m., when he

reduced speed to 9 feet of pitch[2] as the vessel passed buoys 27 and 28. (Vessel operators consider these buoys the entrance to the Saginaw River).

As the BUFFALO entered the narrow section of the river, MacFalda testified that he reduced speed to 6 feet of pitch (approximately 4-5 knots) and that he maintained 6 feet of pitch while the BUFFALO passed the marinas near Station Saginaw River. As the BUFFALO started turning to starboard toward the Detroit & Mackinaw (D&M) railroad bridge, he sighted the JUPITER moored at the Total Petroleum terminal. MacFalda claims to have reduced the pitch to feet before adjusting the vessel's heading to pass through the right-hand draw of the swing bridge.

When the BUFFALO was about to enter the draw, the master sounded a whistle signal to alert the bridge tender to open the Independence Bridge, 3/4 mile ahead. As the vessel's stern cleared the railroad bridge, the master ordered the wheelsman to steer to the right until the vessel was headed for the right-hand pier of the Independence Bridge. MacFalda testified that the BUFFALO was on the channel's centerline, but was favoring the "green," or left side. He estimated that the BUFFALO was 60-65 feet away when it passed abeam of the JUPITER and that because of the wind on his starboard quarter, he passed closer to the JUPITER than he otherwise would have.

Aboard the JUPITER, cargo discharging continued as the BUFFALO traveled upstream. Shortly before 8:00 a.m., the third

---

2. Pitch is defined as the theoretical advance of a propeller in one revolution measured in feet. The BUFFALO was equipped with a controllable-pitch propeller with pitch settings from 0 to 16.5 feet in the ahead position.

mate (the 8-12 watch officer), Daniel Rentschler, relieved the first mate (the 4-8 watch officer), Peter Walton. The two 8-12 watch able seamen, Randall Skinner and Thomas Sexton, also relieved the two 4-8 watch able seamen on deck. Rentschler ordered the able seamen to gauge the tanks to determine how much cargo remained aboard. The JUPITER's pumpman, James Warren, who had been on duty since the vessel arrived at the terminal, was also on deck.

About 8:30 a.m., just as the JUPITER crew had completed gauging the tanks, Rentschler saw the bulk carrier BUFFALO approaching the D&M railroad bridge, which was 0.35 miles downstream of the Total Petroleum terminal. He testified that as the BUFFALO passed through the railroad bridge opening, he heard the sound of its whistle signaling to open the Independence Bridge, located about 0.4 miles upstream of the Total Petroleum terminal.

Cargo pumps 2, 4, and 6 were operating at the time. Rentschler ordered Sexton to shut down the No. 2 cargo pump and attend to the forward mooring winch controls for Nos. 1 and 2 winches. He ordered Skinner to the after mooring winch controls for Nos. 3 and 4 winches. Rentschler then personally shut down Nos. 4 and 6 cargo pumps and went amidships with Warren to the valve manifold platform and started the hydraulic pump for the hose boom winch. Pumpman Warren told Rentschler that a ship was coming "awfully fast."

According to the Total Petroleum terminal operator, Elmer Seltz, as the BUFFALO approached the moored JUPITER, the level of the river rose about 4 feet, imparting a slight forward motion to the JUPITER. The tankship then surged aft about 10 to 15 feet as the water receded. As the BUFFALO passed abeam of

the JUPITER, the tankship again surged forward with increased velocity until the No. 4 mooring wire cable grew taut and broke the center piling on the No. 4 pile cluster, releasing both the wire cable and the after polypropylene line. Both lines fell into the water.

The stern of the BUFFALO had cleared the JUPITER's bow when the tankship stopped moving astern and started to surge forward again. With no aft mooring lines to hold it, the vessel's stern swung out into the river. When this happened, Rentschler and Warren were amidships at the cargo hose boom controls. The cargo hose was the hose through which the gasoline was pumped from ship to shore. When the cargo hose stretched tight, Rentschler and Warren lowered it to the deck to relieve the stress. The force of the Jupiter's forward motion caused a nitrogen purge line to break where it entered the top of a pipe located on the pier, spilling gasoline onto the deck of the pier.[3] The cargo hose pulled apart from the stress and spilled gasoline on the pier and on the tankship's deck. The cargo hose contained between 120 and 300 gallons of gasoline.

As the ship swung out, the electric control switch and power cord for the wharf gasoline pipeline motor operated valve pulled apart and the cord flew into the water. The power cord and switch controlled 440 volts of electricity from the wharf electrical

---

3. The deck of the pier, on which the two pipelines were mounted, was 6 feet wide. On the upstream side, a 10-inch welded steel pipe was used to transfer light heating oil products. On the downstream side, a 12-inch welded steel pipe was used to transfer gasoline products. Both pipelines were elevated approximately 2 feet above the deck at the river end of the pier to enable terminal personnel to clear the pipe of product after they completed transfer operations. Personnel cleared the pipelines using pressurized nitrogen from a 1 1/2-inch purge pipe installed on the pier and connected to the outer ends of the pipes.

supply line which powered the motor operated valve. Rentschler testified that he twice saw sparks flash on the pier from the damaged electrical wires. He said that the second flash ignited the spilled gasoline.

The fire on the pier spread along the cargo hose, onto the JUPITER's deck, and ignited gasoline retained by a spill containment rail. Rentschler testified that as he ran forward to the vessel's bow, he looked back and saw the entire midships area engulfed in flames. Sexton, who had been at the forward winch controls, joined him. Rentschler testified that he intended to use the bow telephone to report the fire and to let go an anchor if the JUPITER started to drift into the river. Before he got to the bow, however, an explosion occurred, followed by a loud roar of fire from the burning gasoline.

The fire, fueled by gasoline trapped on deck by a spill containment rail, quickly engulfed the deck of the JUPITER. Eyewitnesses reported three explosions, two on the port side and one on the starboard side, immediately following the spreading fire. The explosion tore away sections of the main deck and caused part of the deck on the forward starboard side to fold over the side of the vessel.

The JUPITER's master, Captain Beckwith, was in the starboard hallway talking with the cook when he heard the winches "groaning." This indicated to him that the winches were under a heavy strain. As he stepped outside, he saw the BUFFALO passing by and realized that the JUPITER was surging. At this time, he went immediately to the pilot house.

When Captain Beckwith reached the pilothouse, he saw Walton at the aft winch controls, Sexton at the forward winch

controls, and Rentschler lowering the transfer hose with the boom and the runners. As Beckwith approached the pilothouse, he saw the pier breaking up and the cargo hose stretching taut despite his crew's efforts to lower it. He radioed the Coast Guard at Station Saginaw River and reported that the JUPITER had been "sucked" off the pier and that the pier was breaking up. He thought the cargo hose was going to break and spill some product, so he rang the general alarm and sounded the ship's whistle. A short time later he saw fire on the wharf and on the manifold area of the ship. He turned on the foam pump from the foam system control in the pilothouse in an effort to extinguish the fire and then went to the stern.

With the exception of Rentschler and Sexton, all 17 members of the crew and Captain Beckwith evacuated from the stern. Rentschler and Sexton were on the bow when the fire erupted, effectively cutting off any passage to the stern. Both men jumped overboard from the bow.

Rentschler swam to an old wood breakwater nearby and crawled up on it. Thomas Sexton drowned and his body was recovered by police divers on September 19, 1990, in the vicinity of the JUPITER. Three crewmen suffered serious injuries. Three crewmen and a Dow Chemical employee suffered minor injuries.

The explosions and fire aboard the JUPITER damaged the vessel's entire midsection. The vessel, valued at $9 million, was declared a constructive total loss and sold for scrap. The lost cargo, 877,944 U.S. gallons of gasoline, was valued at $845,691.42. The BUFFALO sustained no damage as a result of this accident. The Total Petroleum pier sustained damage from

the surging motion of the JUPITER and the ensuing fire. The estimated damage to the pier was $276,000.

II. FINDINGS OF FACT AND CONCLUSIONS OF LAW

A.

1. The Limitation Proceeding

The instant lawsuit involves two petitions for limitation from, or exoneration of, liability filed pursuant to 46 U.S.C. § 183(a) (the "Limitation Act") by Cleveland Tankers, Inc. and American Steamship Company.

The court's primary concern in a limitation proceeding is to protect the shipowners' right to claim the Act's liability cap, and to reserve the adjudication of that right in the federal forum. *Magnolia Marine Transport Co., Inc. v. Laplace Towing Corp.*, 964 F.2d 1571, 1575 (*citing Langnes v. Green*, 282 U.S. 531, 543, 51 S.Ct. 243, 247, 75 L.Ed. 520 (1931)).

a. Exoneration

" 'An owner will be exonerated from liability when he, his vessel and crew are found to be completely free of fault.' " *Hammersley v. Branigar Organization, Inc.*, 762 F. Supp. 950, 955 (S.D. Ga. 1991) (quoting *In re Complaint of Caribbean Sea Transport*, 748 F.2d 622, 626 (11th Cir. 1984) (citing *In re Complaint of Tittle*, 544 F.2d 752, 755 (5th Cir. 1977), *modified on other grounds*, 753 F.2d 98 (5th Cir. 1985)). "A denial of exoneration does not necessarily preclude a grant of limitation of liability." *Tittle*, 544 F.2d at 756. "The burden of proof of exoneration is on the claimants; they must prove some fault on

the part of petitioner as in the case of a complaint charging liability." *In Re M/V SUNSHINE, II*, 808 F.2d 762, 764 (11th Cir. 1987) (emphasis added).[4]

b. Limitation

The *Sunshine* Court went on to describe "the two-step analysis involved in a limitation case" as follows:

> [A] determination of whether a shipowner is entitled to limit his liability involves a two-step analysis. As stated in *Farrell Lines, Inc. v. Jones*, 530 F.2d 7 (5th Cir. 1976): "First, the court must determine what acts of negligence or conditions of unseaworthiness caused the accident. Second, the court must determine whether the shipowner had knowledge or privity of those same acts of negligence or conditions of unseaworthiness."

808 F.2d at 764.

---

4. In *In re M/V SUNSHINE, II*, the Eleventh Circuit stated:

> For the convenience of the parties, general liability is ordinarily heard along with the petition for limitation. The petitioner must prove the conditions that entitle him to limitation. It is possible that he will be exonerated from fault (if claimant fails to prove any fault), in which event the surrendered vessel or other property is returned and petitioner's stipulation cancelled.

Id. at 764.

Appendix C

While the petitioner in a limitation proceeding has the burden of proving compliance with conditions entitling him to limit his liability, *In re W.E. Hedger Co., Inc.*, 59 F.2d 982 (2nd Cir. 1932); *Titus v. Santorini*, 152 F. Supp. 63 (D.C. Ore. 1957), *aff'd*, 258 F.2d 352 (9th Cir. 1958); *Pennzoil Products Co. v. Offshore Exp. Inc.*, 943 F.2d 1465 (5th Cir. 1991), the claimant has the burden of proving that negligence or unseaworthiness was the proximate cause of the accident. *Farrell Lines, Inc. v. Jones*, 530 F.2d 7,10 (5th Cir. 1976); *Northern Fishing and Trading Co., Inc. v. Grabawski*, 477 F.2d 1267 (9th Cir.), *cert. denied*, 414 U.S. 1079, 94 S.Ct. 597, 38 L.Ed.2d 485 (1973); *Walstron v. Lambertsen*, 349 F.2d 660 (11th Cir. 1965), *cert. denied*, 382 U.S. 980, 86 S.Ct. 553, 15 L.Ed.2d 470 (1966).

A shipowner is responsible for unseaworthiness of his vessel only if he has knowledge, or in the use of ordinary care, should have knowledge of that condition. *The Linseed King*, 285 U.S. 502, 52 S.Ct. 450, 76 L.Ed. 903 (1932); *Gibboney v. Wright*, 517 F.2d 1054 (5th Cir. 1975); *Waterman Steamship Corp. v. Gay Cottons*, 414 F.2d 724 (9th Cir. 1969); *China Union Lines Ltd. v. A.O. Andersen & Co.*, 364 F.2d 769 (5th Cir. 1966), *cert. denied*, 386 U.S. 933, 87 S.Ct. 955, 17 L.Ed.2d 805 (1967); *The Cleveco*, 154 F.2d 605 (6th Cir. 1946). Privity or knowledge has been frequently defined as follows:

> As used in the [Limitation Act], the meaning of the words "privity or knowledge," evidently, is a personal participation of the owner in some fault, or act of negligence, causing or contributing to the loss, or some personal knowledge or means of knowledge, of which he is bound to avail himself of a contemplated loss, or a condition of things

> likely to produce or contribute to the loss, without adopting appropriate means to prevent it. There must be some personal concurrence, or some fault or negligence on the part of the owner himself, or in which he personally participates, to constitute such privity, within the meaning of the Act, as will exclude him from the benefit of its provisions.

Sunshine, 808 F.2d at 763-64 (citing *Lord v. Goodall, Nelson & Perkins S.S. Co.*, 15 F. Cas. 8,506 (D.C. Cal. 1877)). "It is only knowledge or privity of negligent acts or unseaworthy conditions which trigger a denial of limitation." *Farrell Lines Inc. v. Jones*, 530 F.2d 7,10 (5th Cir. 1976).

"Knowledge" in limitation proceedings denotes some personal cognizance or means of knowledge, of which the shipowner is bound to avail himself of a contemplated loss, unless proper means are adopted to prevent it. *Pritchett v. Kimberling Cove, Inc.*, 568 F.2d 570 (8th Cir.), *cert. denied*, 436 U.S. 922, 98 S.Ct. 2274, 56 L.Ed.2d 765 (1977); *Coleman v. Jahncke, Inc.*, 341 F.2d 956 (5th Cir. 1965), *cert. denied*, 382 U.S. 974, 86 S.Ct. 538, 15 L.Ed.2d 465 (1966); *The Cleveco*, 154 F.2d 604 (6th Cir. 1946).

"Privity," like "knowledge," is a somewhat ambivalent term and turns on the facts of particular cases. *Coryall v. Phipps*, 317 U.S. 406, 63 S.Ct. 292, 83 L.Ed. 363 (1943); *Gibboney v. Wright*, 517 F.2d 1054 (5th Cir. 1975); *Coleman v. Jahncke Inc., supra.* "Privity" has been defined as some personal participation of the owner in the fault, or negligence which caused or contributed to the loss or injury. *Coleman v. Jahncke, supra*; *Coryall v. Phipps, supra.*

Appendix C

If the claimant succeeds in meeting the initial burden of establishing negligence or unseaworthiness, the burden of proof then shifts to the petitioner to demonstrate a lack of privity or knowledge. *Farrell Lines, Inc. v. Jones, supra*; *Hammersley v. Branigar Organization, Inc.*, 762 F. Supp. 950 (S.D. Ga. 1991); *Birister v. AWI, Inc.*, 749 F. Supp. 749 (E.D. La. 1990), *aff'd in part and vacated in part*, 946 F.2d 350 (5th Cir. 1991); *Complaint of Cirigliano*, 708 F. Supp. 101 (D.N.J. 1989); *Tug Seahawk v. Sococo, Ltd.*, 707 F. Supp. 1306 (S.D. Fla. 1988), *aff'd sub nom Sococo, Ltd. v. Sterling Maritime*, 894 F.2d 411 (11th Cir. 1990); *Complaint of Cameron Boat Rentals, Inc.*, 683 F. Supp. 577 (W.D. La. 1988); *Petition of Minerva Boat*, 92 F. Supp. 694 (D.C.N.Y. 1950); *The Big Chief*, 75 F. Supp. 496 (D.C. Mo. 1948); *The Cleveland*, 54 F. Supp. 819 (D.C.N.Y. 1941), *aff'd*, 141 F.2d 1020 (2nd Cir. 1944). "The ultimate burden of proof as to absence or lack of privity or knowledge is upon the petitioner. . . ." *Sunshine*, 808 F.2d at 763.

Under the Limitation Act, this Court must determine (1) whether there was negligence or unseaworthiness; (2) if there was negligence or unseaworthiness, whether it was without "privity and knowledge" of the owner; and (3) if limitation is granted, how the [limitation] fund should be distributed. *Complaint of Dammers & Vanderheide*, 836 F.2d 750, 755 (2nd Cir. 1988) (citing *Universal Towing Co. v. Barrale*, 595 F.2d 414, 417 (8th Cir. 1979)).

2. Effect of Claims By and Against Total Petroleum, Inc.

Total Petroleum is a party to this proceeding as (1) a property damage claimant; (2) a personal injury defendant with respect to claimants Abdul Mussa, Asud Mohamed, Charles Prescott and Kaid Shajrah; (3) a third-party defendant in the Cleveland

Tankers, Inc. limitation action; (4) a cross-defendant in American Steamship Company's claim for contribution; and (5) a counter-plaintiff/cross-plaintiff seeking contribution against Cleveland Tankers, Inc. and American Steamship Company in both limitation actions.

The United States Supreme Court has held that all claims (admiralty or otherwise) arising out of a marine casualty may be adjudicated in the context of the limitation proceeding. *See Hartford Accident & Indemnity Co. v. Southern P. Co.*, 273 U.S. 207, 47 S.Ct. 357, 71 L.Ed. 612 (1927). The *Hartford Accident & Indemnity* case has been consistently applied to encourage the resolution of all disputes arising out of a marine casualty in the limitation proceeding. *See British Transport Commission v. United States*, 354 U.S. 129, 77 S.Ct. 1103, 1 L.Ed.2d 1234 (1957); *Complaint of America Export Lines, Inc.*, 76 F.R.D. 210, 213 n.2 (S.D.N.Y. 1977).

Thus, because petitioners' claims against Total Petroleum arise out of the incident on which this limitation proceeding is based, this Court shall determine the liability of Total Petroleum in this proceeding.

3. Summary of Proceedings

In accord with the above, the adjudication of this limitation proceeding involves (1) a determination as to exoneration from or limitation of liability with respect to Cleveland Tankers, Inc. and American Steamship Company; (2) a determination as to the liability of Total Petroleum; and (3) an apportionment of liability (if any) between Cleveland Tankers, Inc., American Steamship Company, and Total Petroleum in accord with *United States v. Reliable Transfer Co.*, 421 U.S. 397, 95 S.Ct. 1708, 44 L.Ed.2d

251 (1975) (in admiralty, liability is apportioned among multiple parties according to their comparative fault, if any).

B.

1. AMERICAN STEAMSHIP COMPANY

a. Negligence or Unseaworthiness

The case at bar is a "wake, suction or swell damage" case in which rules of negligence and liability are well-established and have been summarized in *O'Donnell Transportation Co. v. M/V Maryland Trader*, 228 F. Supp. 903 (D.C.N.Y. 1963):

> A ship passing piers or docks where other vessels are tied up is obligated to proceed carefully and prudently so as to avoid creating unusual swells or suction which would damage craft properly moored or installations along the shoreline. . . . The moving vessel must take into consideration the reasonable effects to be anticipated from its speed and motion through the water and must take such precautions by way of reduction of speed or alteration of course as may be reasonably necessary to prevent such damage.
>
> On the other hand piers and docks along the shoreline are required to be kept in proper condition and vessels tied up there must be seaworthy and properly moored so as to resist ordinary and normal swells in narrow waters

> where heavy traffic may be anticipated. Some wash from passing vessels is bound to occur and must be anticipated and guarded against. Only unusual swells or suction which cannot be reasonably anticipated furnish the basis for a claim.

Id. at 909 (citations omitted).

A vessel passing a moored vessel has the duty of proceeding carefully and prudently in order to avoid creating unusual swells or suction which would damage properly moored vessels. *Shell Pipeline Corporation v. M/T Sys. Alliance*, 1982 A.M.C. 389 (1981). In instances where the suction, wake or wheelwash of a passing ship damages a stationary vessel, the fact of injury to the stationary vessel raises a presumption of fault on the part of the moving vessel if the stationary vessel is properly moored. *West India Fruit & Steamship Co. v. Raymond*, 190 F.2d 673, 674-675 (5th Cir. 1951); *The Priscilla*, 15 F.2d 455, 456 (2nd Cir. 1926); *New Orleans Steamboat Company v. M/T Hellespont Glory*, 562 F. Supp. 391 (E.D. La. 1983); *Dufrene v. The Diversity*, 163 F. Supp. 331 (D.C. La. 1958), *aff'd*, 272 F.2d 880 (5th Cir. 1959).

1. Speed of the BUFFALO

This Court finds that the M/V BUFFALO passed by the Total dock at an excessive rate of speed, in violation of the Inland Navigation Rules Act, the Navigation Safety Regulations, the Michigan Marine Safety Act, the Bay City Code, and the ordinances of the Township of Bangor and the City of Essexville, *infra*. This Court further finds that the BUFFALO breached its duty of proceeding carefully and prudently in order to avoid creating unusual swells or suction which would damage properly

moored vessels. *O'Donnell Transportation LCo. v. M/V Maryland Trader, supra.*

The BUFFALO's transit was governed by, *inter alia*, Section 164.01 of Title 33, Code of Federal Regulations (1990), which provides in pertinent part:

> The owner, master, or person in charge of each vessel underway shall ensure that:
>
> * * *
>
> (p) The person directing the movement of the vessel sets the vessel's speed with consideration for:
>
> (1) The prevailing visibility and weather conditions;
>
> (2) The proximity of the vessel to fixed shore and marine structures;
>
> (3) The tendency of the vessel underway to squat and suffer impairment of maneuverability when there is small underkeel clearance;
>
> (4) The comparative proportions of the vessel and the channel;
>
> (5) The density of marine traffic;

(6) The damage that might be caused by the vessel's wake;

(7) The strength and direction of the current; and

(8) Any local vessel speed limit;

33 C.F.R. § 164.11.

At trial, this Court took judicial notice (Tr. Vol. XXI, at p.4) of certain state statutes and local ordinances governing vessel speed. The BUFFALO was subject to the Michigan Marine Safety Act, Mich. Comp. Laws § 281.1001, *et seq.*, which provides for the enactment of local ordinances regulating the use of vessels. The Act provides, in part:

> A person operating or propelling a vessel upon the waters of this state shall operate it in a careful and prudent manner and at such a rate of speed so as not to endanger unreasonably the life or property of any person. A person shall not operate any vessel at a rate of speed greater than will permit him, in the exercise of reasonable care, to bring the vessel to a stop within the assured clear distance ahead. A person shall not operate a vessel in a manners so as to interfere unreasonably with the lawful use by others of any waters.

Mich. Comp. Laws § 281.1072. The Act further defines a "slow — no wake speed" as "a very slow speed whereby the wake or

wash created by the vessel would be minimal." Mich. Comp. Laws § 281.1008(b).

Pursuant to the Marine Safety Act, various political subdivisions of Bay County had enacted vessel speed ordinances. While transitting the stretch of river off Total's dock, the BUFFALO was also subject to the Bay City Code. *See* Bay City Code § 23-8(b) (no watercraft may operate at speed "which causes waves to damage docks, . . . or other watercraft"). Likewise, the BUFFALO was subject to laws enacted by the City of Essexville. The City of Essexville created a water traffic ordinance effective September of 1981 to regulate the speed of vessels. Section 9.71 of the ordinance provides:

> On the waters of the Saginaw River located within the City limits of Essexville, Michigan, Bay county, it is unlawful for the operator of a vessel to exceed a slow-no wake speed.

Finally, the BUFFALO was subject to Bangor Township[5] Ordinance No. 134, Rule 5 (unlawful to exceed slow — no wake speed in waters of township).

a. Lay Witness Testimony

Evan C. Perkins, an employee of Triple Clean, located on the south side of the Saginaw River approximately across from the D & M bridge, heard the BUFFALO sound her horn on the

---

5. The Total Petroleum facility is located within Bangor Township. (Garner, Tr. Vol. XXI, p. 77).

morning of September 16, 1990, and observed her as she came through the D & M bridge. Perkins, a former terminal manager at the Wirt Stone Dock, has seen at least 50 vessels go through the bridges on the Saginaw river. (Tr. Vol. IV, p. 86). Perkins testified:

> A. Well my — my first thoughts were, when I came out of the building and saw the BUFFALO going through there, and excuse the expression, but I didn't use it in my deposition, but I said "holy shit," this guy is really moving. Really booking.
>
> * * *
>
> A. Because it seemed like he really was. I mean, faster than I had ever seen any other vessel go through that bridge.

(Tr. Vol. IV, pp. 88, 89).

A second Triple Clean employee, Ronald Noble, had just loaded his truck at the Triple Clean facility and was pulling out onto the road when he noticed the BUFFALO transiting the Saginaw River. He testified:

> A. The first thing that had came into my mind is the boat is really moving. That's the first thing that clicked.
>
> Q. Why?

Appendix C

A. Just because of the water — the water it was pushing at the front of the boat.

Q. And can you describe the water for us?

A. It was — well, the bow of the boat is kind of a flat surface and it was rolled up the front of the boat I would say, approximately three feet, and it was rolling — and it was real — it was white water up on the top.

* * *

Q. Given the best — given your observations as to typical speeds of movement of freighters along that river area where you observed it in the past, how would you compare the rate of speed of the BUFFALO on that day?

A. I would have to say it was going faster than other ships I have noticed.

(Tr. Vol. IV, pp. 123-124). Noble had lived in Bay City for 35 years and, during that time, had seen many ships, including the BUFFALO, travel the portion of the Saginaw River in question. (Tr. Vol. IV, pp. 116-117).

Gloria Davenport, who testified that she lives on the south side of the Saginaw River behind the Triple Clean facility, first observed the BUFFALO when it blew a signal at the D & M bridge. (Tr. Vol. V, p. 48). Davenport, a 34 year resident of the area, testified to having seen "several hundred" ships, including

the BUFFALO, pass through the river. (Tr. Vol. V, pp. 46-47). She testified:

> A. I thought, excessively fast and had the random thought in my mind, because it's pretty close to the — to the Independence Bridge, which is a traffic bridge that, good heavens, he should slow down or he's going to have a hard time getting the bridge open in time.

(Tr. Vol. p. 48).

When she heard an explosion aboard the JUPITER, her first thought was:

> A. I thought it was the BUFFALO that had hit the bridge and blown up.
>
> * * *
>
> Q. Okay. Can you just tell us — and I know it's difficult — what it was when you saw the BUFFALO that — that made you think that?
>
> A. Because it was just going unusually fast and otherwise I just would have looked at it and said, "Oh, well, there's the BUFFALO," and — but it was going unusually fast.

(Tr. Vol. V, pp. 48,57-58).

Appendix C

Elmer Seltz, one of the terminal operators at the Total Petroleum facility, was located at the shore end of the Total dock in what he described as the fire building when the BUFFALO passed the JUPITER. (Tr. Vol. XX, p. 113). Seltz testified that, prior to September 16, 1990, he had had an opportunity to observe river traffic "probably a thousand or so" times. (Tr. Vol. XX, p. 114). Seltz first became aware that the BUFFALO was heading upstream when he heard her blow her horn for the bridge to open. When he first saw the BUFFALO, she was about halfway between the railroad bridge and the JUPITER. (Tr. Vol. XX, p. 114).

In describing his initial observation, Seltz testified:

> A. [S]o I opened the window and really looked out that way, and I noticed that it seemed to be a awful large swell of water on the front of the BUFFALO, so it kind of made me think it's a little larger than I ever seen before.
>
> * * *
>
> A. Well, I thought it was going extremely fast from what I had seen before, so at that point, I went out on the dock to kind of get a little better look.
>
> * * *
>
> Q. Can you describe its speed in relation to the speed you've either seen it before or other vessels pass when a — when a vessel was moored . . . ?

A. Well, to me it looked like maybe it was going close to twice as fast as most of them normally do —

(Tr. Vol. XX, pp. 115, 125, 160).

Captain MacFalda testified that when he first sighted the JUPITER, he reduced the propeller to four feet of pitch. His best "guess" is that he passed the JUPITER "somewhere about two and a half, three miles per hour." (Tr. Vol. XIII, pp. 48, 52). American Steamship's marine superintendent, Noel Bassett, was able to equate pitch setting of the propeller to speed. Basset testified that his best estimate of BUFFALO's speed in the Saginaw River at four feet of pitch would have been on the order of two (2) miles per hour. (Tr. Vol. V, pp. 6, 13).

Captain MacFalda was unable to equate pitch with speed (MacFalda Dep., pp. 61-62). He testified that his usual practice in entering the Saginaw River upbound was to proceed at full speed ahead (16 feet of pitch, or approximately 13 miles per hour) until he reaches buoys 27 and 28 (at the front range or entrance to the Saginaw River) where he slows to nine feet of pitch (approximately 7.8 miles per hour). He usually carries this speed until he nears the marinas (between buoys 7/8 and 10), where he slows to six feet of pitch (approximately 4.9 miles per hour). Six feet of pitch is maintained until the BUFFALO has cleared the D & M Railroad Bridge, at which point Captain MacFalda increases to nine feet of pitch (approximately 7.8 miles per hour) for the run by Total. (Tr. Vol. XI, pp. 111-113, 133, 135; Vol. XIII, pp. 30, 50).

Captain MacFalda testified that he followed this procedure on the day in question, with the exception that when he came

"around the blind corner" at the D & M Railroad Bridge and "up jumped the devil" (*i.e.*, the JUPITER), he reduced pitch from six to four feet. (Tr. Vol. XII, p. 113; Vol. XIII, pp. 34-35, 42, 44, 46). Captain MacFalda, at times, gave inconsistent testimony to the effect that he saw JUPITER and reduced speed sooner than the D & M Bridge, when BUFFALO was between buoys 12 and 14. (Tr. Vol. II, pp. 47-48). In his deposition, Captain MacFalda testified that it was a "fair statement" that he was not aware of JUPITER's presence in time to sufficiently check BUFFALO's speed. (MacFalda dep., p. 173; Tr. Vol. XIII, pp. 27-30).

Absent from BUFFALO's deck log are any entries regarding the vessel's speed during her transit of the Saginaw River. (Exh. 213). MacFalda testified that no one fixed the vessel's position or plotted her progress as would need to be done to calculate her speed. (Tr. Vol. XIII, pp. 82-85).

George Ascherl and his brother Stephen Ascherl, were in the process of taking George's sailboat from the Saginaw Bay Yacht Club to its boat yard. As they exited the yacht club, they fell in behind the BUFFALO. (Tr. Vol. III, pp. 35-38). George Ascherl testified that he followed approximately 200-300 feet behind the BUFFALO. He testified that the top speed of his sailboat is six knots (7.9 miles per hour) at 2500 rpm. He estimated that he was proceeding between 1500-1800 rpm. This would place the speed of the sailboat at between 4.1 and 5 miles per hour. Although he could not give an estimate in knots or miles per hour, he testified that the BUFFALO was proceeding "slowly." (Tr. Vol. III, p. 48).

George Ascherl further testified that as the BUFFALO proceeded from the yacht club to 1,000 feet before the D & M Bridge, he proceeded at a normal slow speed. (Tr. Vol. III, p. 48). The BUFFALO slowed down "drastically" and she "obviously

accelerated" through the draw of the bridge, at which point the BUFFALO decelerated to "pretty much the same speed as prior to her approaching the Detroit & Mackinaw Bridge." (Tr. Vol. III, pp. 48-50). As the BUFFALO approached the Total dock, George Ascherl testified that her speed was "typical" or "normal." (Tr. Vol. III, p. 51).

Contrary to the testimony of the expert hydrodynamicists, *infra*, George Ascherl believes that the passing of the JUPITER by the BUFFALO was coincidental and the JUPITER simply "floated away." (Tr. Vol. III, p. 137).

Stephen Ascherl was a passenger in his brother's sailboat on its trip from the Saginaw Bay Yacht Club to Pier 7 for winter storage. (Tr. Vol. XXII, p. 36). He estimates that as they were following the BUFFALO, they were proceeding at three, maybe four knots (3.5 to 4.6 miles per hour). (Tr. Vol. XII, p. 37). Unlike his brother, Stephen Ascherl did not see any increases or changes in speed of the BUFFALO. (Tr. Vol. XII, p. 38).

This Court finds persuasive the testimony of Perkins, Noble and Seltz, who, in this Court's opinion, were in a position to accurately judge the speed of the BUFFALO and finds their testimony to be more credible than the testimony of George and Stephen Ascherl. This Court further finds that the testimony of George Ascherl was not particularly persuasive given his demeanor on cross-examination and the distance of 200-300 feet at which he "followed" the BUFFALO. Also, Professor Meadows, whose testimony will be discussed, *infra*, testified that if George Ascherl's sailboat was in fact 200-300 feet behind the BUFFALO (about one half of BUFFALO's ship length), the effect would be to increase the sailboat's speed over the ground by approximately 12-17% (Tr. Vol. XXV, pp.149-153). Thus

while George Ascherl may have believed that he was traveling at a given rate of speed because his sailboat was traveling at 1,500 to 1,800 rpm, he may actually have been traveling at a faster rate of speed due to the effect that the forward ship had on the rate of speed of the sailboat.

Furthermore, the expert testimony based upon the physical laws of hydrodynamics discussed below supports this Court's conclusion that the testimony of Perkins, Noble and Seltz is more reliable than that of Ascherl or MacFalda regarding the speed of the BUFFALO.

b. Time and Distance Calculations

Professor Guy Meadows, an expert produced by Total Petroleum, computed the distance between the D & M Railroad and the Independence Bridge to be 4,135 feet, (Tr. Vol. XXV, p. 125). The Coast Pilot Log (Exh. 345) shows the distance as .78 miles, or 4,118 feet. The distance between the D & M Bridge and the Total dock is 1,950 feet. (Tr. Vol. XXV, p. 126; Exh. 240).

The time it took BUFFALO to travel between these points can be determined from two logs generated by public agencies. These logs indicate the time when the BUFFALO blew her signal to open the Independence Bridge, the time when the explosion occurred, and the time when the Independence Bridge closed after the BUFFALO passed through. One log is maintained by the Independence Bridge operator. Gary Keipert, the bridge tender on the day of the incident, recorded the time and location of the BUFFALO when she signaled for him to open the Independence Bridge and the time that he lowered the bridge after she passed through. (Keipert Dep., pp. 12, 17, 18, 27, 28).

Appendix C

The second log is maintained by the 911 operator who logged both the calls from the bridge tender and the report of the accident by Total employee Al Garner. The precise time of the explosion can be determined because Garner was speaking to the 911 operator when the explosion occurred.

Professor Meadows calculated the speed of the BUFFALO by using both the 911 log and the bridge tender's log. Professor Meadows' calculations show a speed of the BUFFALO between the bridges from a low of 6 miles per hour to a high of 9.2 miles per hour. The calculated time between the passing of the BUFFALO through the D & M bridge and the 911 recorded time of the explosion indicates a speed between 7.3 and 8.1 miles per hour, depending upon whether the BUFFALO was halfway through the railroad draw or whether her bow was just in the railroad draw when she blew her whistle, and whether the BUFFALO was 500 feet or 600 feet past the JUPITER at the time of the explosion. (Tr. Vol. XXV, pp. 127-131). These calculations are consistent with the testimony of Professor Nicholas Newman and Professor Armin Troesch who, based upon the magnitude of the hydrodynamic forces which were generated during the incident, concluded the BUFFALO had to be traveling between 6 mph and 9 mph.

Based on the expert testimony presented at trial, this Court finds that the BUFFALO was travelling at a rate of speed of between six (6) and nine (9) miles per hour as she passed the JUPITER. This Court further holds that this was an excessive and unreasonable rate of speed.

Furthermore, this Court recognizes that a dispute exists over the precise speed of the BUFFALO as it passed by the JUPITER, and that there exist variances in the testimony with regard to the

actual speed of the BUFFALO. However, the precise speed of the BUFFALO need not be calculated in order to determine whether or not the BUFFALO passed the JUPITER in an unreasonable manner. The BUFFALO owed a duty to the JUPITER and the owners of the Total Petroleum facility to pass by the JUPITER carefully and prudently in order to avoid creating unusual swells or suction which would damage the JUPITER and/or the Total facility. *O'Donnell Transportation Co. v. M/V Maryland Trader*, 228 F. Supp. 903 (D.C.N.Y. 1963). Regardless of the precise speed of the BUFFALO, the fact remains that the evidence presented at trial shows that the BUFFALO failed to pass by the JUPITER carefully and prudently.

Evidence which follows regarding hydrodynanic forces, shows that the passage of the BUFFALO created surge forces which caused the JUPITER to surge violently backwad and then forward in her berth, to ultimately pull away from the Total facility, and to subsequently explode.

c. Expert Testimony regarding Hydrodynamic Forces

Professor J. Nicholas Newman, a Professor of Naval Architecture at the Massachusetts Institute of Technology, was called by Total. Professor Newman was tendered as one of the preeminent hydrodynamicists in the United Sates and internationally. (Appendix 3 to Exh. 359A).

Professor Newman prepared two reports containing his calculation of the sway, surge and yaw forces imposed upon the JUPITER by the passing of the BUFFALO at 3 mph, 6mph, and 9 mph. After describing the nature of hydrodynamic forces (pressure fields within the water that cannot be readily seen and

which can be judged to some extent by surface wave action) (Tr. Vol. XV, p. 74), Professor Newman described the "panel method" of analysis which he used. (Tr. Vol. XV, pp. 79-80). He described the relationship between speed and hydrodynamic forces; *i.e.*, that forces and pressures increase in proportion to the square of the speed. (Tr. Vol. XV, p. 91). When a vessel such as the BUFFALO passes a moored vessel such as the JUPITER, the important forces in ship interaction are the surge force (fore and aft); the side or sway force; and the yaw movement, which is the turning moment. (Tr. Vol. XV, p. 86).

Professor Newman reached his opinions concerning speed of the BUFFALO by two methods. First, using a time and distance calculation, he "independently came to an opinion of the speed of the BUFFALO because of its importance," using the bridge tender's log. He calculated a speed of 8.8 to 9.2 mph. (Tr. Vol. XV, pp. 95, 101).

Professor Newman then testified that the forces necessary to cause the JUPITER (a mass of 8,000 tons) to move to the extent that it did "would require forces that are on the order of tens of tons, not ones of tons." (Tr. Vol. XV, p. 125). His opinion regarding the speed of the BUFFALO necessary to generate that kind of force, and consistent with the above-cited time and distance calculations, was that the BUFFALO had to be traveling at a speed of between six and nine miles per hour:

> Q. Okay. And how — do you have an opinion as to how, if any, those forces would relate to the speed of the BUFFALO?
>
> A. Well, yes, I would. As I said earlier, that's

> — that was part of my motivation for calculating the forces at different speeds of the BUFFALO, and in order to get, say, at bare minimum, ten tons of force accelerating the JUPITER fore and aft, one would have to be looking at that top curve there somewhere between six and nine miles per hour.

(Tr. Vol. XV, p. 126).

Newman testified that, had the BUFFALO been proceeding at the 2.5 to 3 miles per hour, as claimed by Captain MacFalda, the accident would not have occurred:

> A. In my opinion, no way could the BUFFALO have been responsible for the events if it had been going at a velocity of three miles per hour.

(Tr. Vol. XV, pp. 151-152). Professor Newman expressed the opinion that it was, in fact, the BUFFALO's passing of the JUPITER which caused the JUPITER to surge 10-15 feet aft (Tr. Vol. XV, p. 124).

The testimony of American Steamship's hydrodynamicist, Professor Robert Beck, chairman of the Department of Naval Architecture at the University of Michigan, supports the proposition that the BUFFALO was traveling in excess of 2-3 miles per hour, as claimed by Captain MacFalda.

In his report, (Exh. 214), Professor Beck calculated only two of the three hydrodynamic forces involved. That is, he

calculated sway and yaw forces, but not surge forces.[6] He estimated surge forces based upon some experiments done by Professor Remerey. Professor Beck agreed with the force coefficients shown on Professor Newman's graphs. (Exh. 359A, pp. 8,10,11). He agreed that the initial significant longitudinal forces imposed upon the JUPITER would be to cause it to surge backwards or aft. (Tr. Vol. XX, pp. 31, 47).

Professor Beck, in his report, assumed a speed of the BUFFALO of 2.85 knots, or slightly in excess of 3 mph. He conceded at trial, however, that his estimate of aft longitudinal surge at that speed was less than his calculation of wind forces tending to push the vessel forward. Thus, he conceded that under his initially assumed speed, the vessel would not move at all because the wind force was greater than his calculated aft surge force. (Tr. Vol. XX, pp. 52-53, 68, 69, 70).

Thus, according to the testimony of its own expert, if the BUFFALO were traveling at only 3.3 mph, it would not have generated sufficient force to overcome the upstream wind force and would not have caused the JUPITER to surge aft at all.

Beck concluded at trial that his initial calculations were too low and that the BUFFALO had to be going faster than 2.85 knots. (Tr. Vol. XX, p. 84). Beck admitted on cross examination that the speed of the BUFFALO had to have been greater than 4 mph in order for the JUPITER to move aft into the wind that was present. (Tr. Vol. XX, pp. 100-101).

---

6. Professor Beck used the "slender body theory"; although he acknowledged that the "panel theory" used by Professor Newman is more accurate. (Tr. Vol. XX, pp. 20-22).

Appendix C

Professor Armin Troesch, a hydrodynamicist from the University of Michigan who has specialized in ship dynamics, testified consistently with the testimony of Professors Newman and Beck that the first significant movement of the JUPITER was aft. (Tr. Vol. XXVII, p. 125; Vol. XXVIII, p. 109).

Consistent with the testimony of Professor Newman, Professor Troesch found that it was the passing of the BUFFALO which caused the JUPITER to move away from the dock. He testified:

> A. Well, the — the action — the hydrodynamic action of — caused by the BUFFALO on the JUPITER was a primary source of moving it away from the dock.

(Tr. Vol. XVIII, p. 46). Professor Troesch's testimony also indicated that had the BUFFALO been traveling at 3 mph, "it was highly unlikely, if not impossible, to happen at 3 miles per hour." (Tr. Vol. XXVII, p. 140).

Ultimately, Professor Troesch testified that the BUFFALO must have been traveling "somewhere around" 8 mph for the events to occur as they did:

> Q. What is it that leads you to say that you think the most likely speed of the BUFFALO was eight miles per hour?
>
> A. All right. At eight miles an hour, I can get the aft motion with the — the run sheet or the output sheet that I — I've submitted

Appendix C

> —or you've submitted as evidence. I can get approximately nine feet aft motion. We kept the forces on the Number 2 cluster sufficiently high with that speed to cause a breasting force that ultimately ends up breaking it, and again, the criteria here was to get a force that matched Mr. Van Houten's calculation on the strength of the Number 2 cluster, and so he said he needed about 80,000 pounds to break the Number 2 cluster with a breasting force. That was one of the criteria — criterion I used in — in determining the speed.
>
> In addition, the dynamics of the bow poly at eight miles an hour are sufficient to suggest that the bow poly would whip off the Number 1 cluster.

(Tr. Vol. XXVII, pp. 141-142).

In conclusion, this Court finds that the evidence presented shows that the BUFFALO passed by the JUPITER at a rate of speed somewhere between six and nine miles per hour. This rate of speed, in this Court's opinion, was excessive and unreasonable under the circumstances.

MacFalda admitted that if he had been aware that JUPITER was at the Total dock and transferring flammable cargo, he would have slowed down earlier; "slowed down even more"; "been more cautious"; and reversed the BUFFALO's engines. (Tr. Vol. XIII, pp. 25-26, 39-42, 60-62, 108-109). The fact that MacFalda

was not so aware does not excuse the rate of speed at which he passed the JUPITER.

This Court finds that the BUFFALO's passage of the JUPITER at an excessive rate of speed constitutes negligence under the rule set forth in *O'Donnell Transportation Co. v. M/V Maryland Trader*, 228 F. Supp. 903, 909 (D.C.N.Y. 1963):

> A ship passing piers or docks where other vessels are tied up is obligated to proceed carefully and prudently so as to avoid creating unusual swells or suction which would damage craft properly moored or installations along the shoreline. . . . The moving vessel must take into consideration the reasonable effects to be anticipated from its speed and motion through the water and must take such precautions by way of reduction of speed or alteration of course as may be reasonably necessary to prevent such damage

The Captain and crew of the BUFFALO failed to take into consideration the reasonable effects to be anticipated from its speed through the water.

Furthermore, this Court holds that the BUFFALO passed by the JUPITER at an excessive rate of speed in violation of the Inland Navigation Rules Act, the Navigation Safety Regulations, the Michigan Marine Safety Act, the Bay City Code, and the ordinances of the Township of Bangor and the City of Essexville, *supra*.

Appendix C

2. Passing JUPITER Too Closely

All three hydrodynamicists agreed that in addition to speed, the proximity of the vessels to each other is directly related to the magnitude of the hydrodynamic forces; *i.e.*, the closer the vessels are, the larger the forces. (Tr. Vol. XV, p. 81; Vol. XX, p. 94; Exhs. 214, 359A). Captain MacFalda testified that the BUFFALO passed the JUPITER at a distance of 60 to 65 feet. (Tr. Vol. XIII, p. 65).

At approximately 2:00 a.m., on the morning of September 16, 1990, the IRVIN L. CLYMER, a Great Lakes bulk carrier, similar in size to the BUFFALO, with a length of 638 feet and a beam of 60 feet, passed the JUPITER and headed downstream. (Exh. 300, p. 24). The fact that the IRVIN L. CLYMER was downbound (the opposite direction of the BUFFALO) had no effect on the hydrodynamic forces it imposed on the JUPITER. (Newman, Tr. Vol. XV, p. 115).

Second Mate Stengel, who had JUPITER's deck watch at the time, observed the CLYMER's passage and testified that the CLYMER passed at a safe speed and at a distance of 70-80 feet, and that CLYMER's passage did not cause JUPITER to move. (Tr. Vol. XIV, pp. 36-37, 40; Tr. Vol. VIII, p. 116). The CLYMER took 25-35 minutes to go from the Independence Street Bridge to "two or three shiplengths past the JUPITER" (a distance of between 1,100' and 1,650'). (Stengal, Vol. XIV, pp. 36037; Exh. 3; Warren, Vol. IX pp. 21-22). This equates with a speed of between 2 and 3 mph. Nothing adverse happened to the JUPITER or to the Total dock when the CLYMER passed. (Warren, Vol. VIII, pp. 115-116; Stengal, Vol. XIV, pp. 37, 39). Not only does this tend to establish that the rate of passage of the BUFFALO was in excess of 2-3 mph, but that the rate at which the

BUFFALO passed, and the proximity with which it passed were unreasonable.

Thus, this Court finds that the BUFFALO passed the JUPITER too closely. This Court holds that this act was an act of negligence which contributed, in part, to the surging aft and forward of the JUPITER and, thus, contributed to the explosion which resulted.

Causation

Additionally, this Court holds that claimants have proved that the above-listed unreasonable acts were a proximate cause of the accident which occurred on September 16, 1990.

The explosions which occurred in the cargo tanks of the JUPITER were occasioned when fire spread to the ship from the pier of the oil dock at which the JUPITER was berthed discharging her cargo of unleaded gasoline. (Tr. XVIII, p. 30; Tr. VIII, p. 22; Exh. 300, p. 10). The fire was caused when sparks from torn electrical cables on the pier ignited gasoline spilled on the pier. (Tr. XVIII, p. 29; Tr. VIII, p. 26; Exh. 56, ¶ 35; Exh. 300, p. 10). The gasoline spillage resulted from the ruptures and disturbances of the flexible hose and dockside pipeline. (Tr. VIII, pp. 21, 28, 34-5; Exh. 300, p. 10). Both the rupture of the hose and the tearing of the pierside cables took place when hydrodynamic forces led to the JUPITER's surging back and forth in her berth, pulling partially loose from her moorings. (Tr. VII, p. 84; Tr. VIII, p. 34; Tr. XX, pp. 116-118; Exh. 300, pp. 7-8, 10, 113). Finally, it has been established that the hydrodynamic forces which caused the surging of the JUPITER had been generated by the speed of the BUFFALO and the proximity with which she passed the JUPITER.

Appendix C

This Court finds that claimants have met their burden of establishing negligence on the part of American Steamship Corporation. *Farrell Lines, Inc. v. Jones*, 530 F.2d 7, 10 (5th Cir. 1976); *Northern Fishing and Trading Co., Inc. v. Grabawski*, 477 F.2d 1267 (9th Cir.), *cert. denied*, 414 U.S. 1079, 94 S.Ct. 597, 38 L.Ed.2d 485 (1973); *Walstron v. Lambertsen*, 349 F.2d 660 (11th Cir.), *cert. denied*, 382 U.S. 980, 86 S.Ct. 553, 15 L.Ed.2d 470 (1965).

b. Knowledge or Privity

Because claimants have met their burden of proving negligence, the burden rests with American Steamship to prove lack of knowledge or privity in order to be entitled to limitation of liability. *Farrell Lines, Inc. v. Jones*, 530 F.2d 7, 10 (5th Cir. 1976). This Court concludes, for reasons which follow, that American Steamship has failed to meet its burden of proving lack of knowledge or privity and, therefore is not entitled to limitation of liability.

The negligence on the part of the M/V BUFFALO in the present case arose during the navigation or operation of the ship at sea. This Court has determined that the acts of negligence on the part of the crew of the BUFFALO constituted traveling at an unreasonable speed and passing the JUPITER too closely. The fact that the acts of negligence arose during the navigation of the ship at sea, however, does not insulate American Steamship Corporation from liability. As stated in *In re Ta Chi Navigation (Panama) Corporation*, S.A., 513 F. Supp. 148 (E.D. La. 1981), *aff'd*, 728 F.2d 699 (5th Cir. 1984):

> The fact that the unseaworthiness can be labeled as an error in navigation does not

> magically protect the shipowner from liability. At some point along a spectrum of performance competency, an error in navigation is attributable to incompetence on the part of the crew.

Id. at 158.

In *Hercules Carriers, Inc. v. Claimant State of Florida*, 768 F.2d 1558 (11th Cir. 1985), the Eleventh Circuit held that a shipowner was not entitled to limit its liability where the shipowner had failed to provide an adequate training program for the crew of the ship. The *Hercules* court held:

> [D]ue to the lack of training, Chief Mate Chan was uninformed as to the Inland Rules of the Road, IMCO regulations, and his duties as officer of the watch. As found by the district court, this inadequate training led to the following negligent acts of Chief Mate Chan: (1) failure to post or properly inform a diligent lookout who had no other duties; (2) leaving the bridge of the vessel without a relief officer and without informing Captain Liu of the position and speed of the SUMMIT VENTURE; (3) failure to plot or reaffirm the position of the SUMMIT VENTURE; (4) failure to insure the safe navigation of the SUMMIT VENTURE by requiring compliance with the rules of the road in restricted visibility; and (5) neglecting to inquire or intervene when it was apparent that Pilot Lerro was placing the SUMMIT

> VENTURE in peril. We agree with the district court's finding that the above-listed negligent acts contributed to the accident and are directly attributable to Hercules in failing to exercise due diligence in selecting, training, and maintaining a competent crew.

Id. at 1576-77. Thus, although each of the acts of negligence on the part of the crew of the SUMMIT VENTURE occurred while the ship was engaged in navigation at sea, the Eleventh Circuit found that the shipowners acted with privity or knowledge due to the shipowners' failure to properly select, train, and maintain a competent crew.

Likewise, in the case at bar, Captain MacFalda's and the crewmembers' acts of negligence are directly attributable to American Steamship Company because American Steamship Company failed to exercise due diligence in training and maintaining a competent crew.

The excessive speed of the BUFFALO on September 16, 1990, was not an isolated event. She had developed a reputation for proceeding in the Saginaw River at such rates of speed. (Cook, Tr. Vol. V, pp. 73, 100; Davenport, Tr. Vol. V, p. 54). American Steamship Company had been called upon on prior occasions to address claims for damages caused by her wake. (Keaton, Tr. Vol. V, pp. 164-70). Thus, American Steamship Company was on notice that a problem existed regarding the speed of the BUFFALO as she travelled on the Saginaw River. A decision not to take steps to correct a situation of which a shipowner has knowledge constitutes active, albeit negative, participation in any future reoccurrences. *Pennzoil Producing Co. v. Offshore Exp., Inc.*, 943 F.2d 1465 (5th Cir. 1991).

Appendix C

Captain MacFalda had an inadequate understanding of the rules that bore upon the BUFFALO's operation:

Q. As you were transitting the Saginaw River on September 16, 1990, which rules governed the navigation of Buffalo? Which navigation rules?

A. I don't understand your question.

Q. Which rules of the road apply on the Saginaw River?

A. I don't understand.

Q. I'm going to hold up a book. Have you ever seen that before?

A. Yes, I have seen that. They come in green too.

Q. Green. What is this book?

A. That's the rules of the road.

* * *

Q. Do the rules set forth in this book or did they apply to Buffalo on September 16th of 1990?

A. I don't get what — those are the rules.

Q. These rules applied?

A. I would assume, yes.

Q. Are there more than one set of rules set forth in this book? I think there's two sections there. I haven't looked at that book in years.

Q. Do you know what the rules say about the speed of vessels?

A. Not off the top of my head, no. I have no recollection.

Q. Do you know what the rules say shall be taken into account when determining a safe speed?

A. Bare minimum steerage.

Q. Do you know what the rules say about a lookout?

A. Something to the effect posted in confined waters, limited visibility, probably whenever you deem it necessary.

Q. I apologize for jumping around. I want to return to the rule which addresses speed. Does it say anything else about what shall be taken into consideration when setting a safe speed?

A. I don't know what it says. You know, my memory doesn't serve me right and I have — like I say, I haven't looked at that book in years.

Q. For the record, we're talking about a book titled U.S. Department of Transportation United States Coast Guard Navigation Rules.

A. I don't know if that's the current one or this one superseded the green one or if the green one is in effect now.

Q. Do you know which color you had on board Buffalo on. September 16th?

A. No.

Q. Captain MacFalda, have you ever heard of the Navigation Safety Regulations?

A. I don't recall. It sounds like a title of a board or something.

* * *

Q. The regulations that I'm referring to are in the same part as the regulations which require gear to be tested. Okay?

A. Okay.

Q. Do you know what, if anything, those regulations say shall be considered by the person directing the movement of the vessel with respect to rudder orders, engine speed, anchors for what shall be considered when establishing the speed?

A. What does this say? I haven't the slightest idea what it says.

Q. Have you ever read the regulations.

A. No. More books I haven't read in years.

Q. Have you ever read those regulations?

A. I've scanned through them. But I mean, as far as reading them, I have no purpose to read them.

(MacFalda Dep., pp. 112-115). And, while the BUFFALO commenced her voyage under orders to proceed to Bay City, her master was unaware that local speed regulations even existed. (MacFalda Dep., p. 61).

"Privity" is defined as personal participation of the owner, or negligence which caused or contributed to the accident. *Coryall v. Phipps*, 317 U.S. 406, 63 S.Ct. 292, 83 L.Ed.2d 363 (1943). Captain MacFalda's demonstrated ignorance of the speed limits which were in effect on the Saginaw River on September 16, 1990 is, in this Court's opinion, indicative of the fact that American Steamship Company failed to train and maintain a crew that was competent to undertake the voyage

undertaken by the BUFFALO on September 16, 1990. This failure to exercise due diligence in the training and maintenance of a competent crew constitutes an act of privity on the part of American Steamship Company and accordingly, American Steamship Company is not entitled to limitation of its liability.

Additionally, the *Hercules* court held:

> [A]s Hercules cannot avoid full liability by claiming simple navigational error beyond its privity and knowledge, it also cannot claim that the inadequate training and unwritten company policies that were violative of the inland rules and IMCO regulations were beyond its privity and knowledge. *See Avera v. Florida Towing Corporation*, 322 F.2d 155, 166 (5th Cir. 1963) (measure of knowledge that fulfills the duty of inquiry is not simply what the owner knows but what he is charged with finding out); *In re Ta Chi Navigation (Panama) Corporation, S.A.*, 513 F. Supp. 148, 158-159 (E.D. La. 1981), *aff'd*, 728 F.2d 699 (5th Cir. 1984) (incompetency of the crew demonstrated by their actions and limitation defeated when the shipowner failed to demonstrate adequate inquiry into competency or provision of adequate training).
>
> In sum, Hercules had a duty to make inquiry as to the competency of the SUMMIT VENTURE's crew and to verify that its written instructions were being followed.

Appendix C

> Privity and knowledge exists where the owner has actual knowledge, or could have and should have obtained the information by reasonable inquiry or inspection. Hercules is not entitled to a limitation of liability as it has failed to establish that it did not have actual knowledge of the crew's negligence and conditions of unseaworthiness or in the alternative failed to prove that it could not have obtained the information by reasonable inquiry or inspection.

768 F.2d at 1577. Likewise, American Steamship Company had a duty to make inquiry as to the competency of the BUFFALO's crew and to verify that the inland rules of navigation and the above-listed applicable rules regarding proper speed of vessels travelling the Saginaw River were being followed by the crew of the BUFFALO.

This Court finds that American Steamship Company is not entitled to a limitation of liability because it has failed to establish that it did not have actual or constructive knowledge of the crew's negligence.

Finally, the statute under which American Steamship Company seeks to limit its liability for the losses resulting from this incident provides, in part, that:

> In respect of loss of life or bodily injury the privity or knowledge of the master of a seagoing vessel or the superintendent or managing agent of the owner thereof, at or prior to commencement of each voyage, shall

> be deemed conclusively the privity or knowledge of the owners of such vessel.

46 U.S.C. § 183(e).

The master of the BUFFALO was not adequately knowledgeable of the laws governing the speed of vessels traversing the Saginaw River. This Court finds that operating a ship through the Saginaw River in ignorance of the above-listed laws regarding safe speed constitutes a failure to use reasonable care in the operation of the ship. Under 46 U.S.C. § 183(e), this lack of knowledge shall be deemed conclusively the privity or knowledge of the owners of such vessel.

For all of the above reasons, this Court concludes that American Steamship Company was negligent in failing to maintain a safe speed and in passing the JUPITER too closely. American Steamship Company has failed to prove that it lacked privity or knowledge of this negligence on the part of its crew. Accordingly, American Steamship Company shall not be entitled to limit its liability for the losses which occurred as a result thereof.

2. CLEVELAND TANKERS, INC.

a. Negligence or Unseaworthiness

In order to establish negligence under the Jones Act or general maritime law, it is elementary that the plaintiff must prove the existence of a duty on the part of the defendant, failure to conform with the duty, proximate cause and actual loss or damages. William J. Norris, *The Law of Maritime Personal Injuries* (4th ed. 1990), sec. 9:3, p. 447.

Appendix C

The allegations of negligence against Cleveland Tankers, Inc., as set forth by the claimants and American Steamship Company, are as follows.

1. American Steamship Company ("ASC") and Claimants contend that the JUPITER was negligently moored at the Total facility.

This Court makes the following findings of fact with respect to the mooring arrangement of the JUPITER. Located on the west side of the Saginaw River in Bangor Township, Bay County, Michigan, the Total Petroleum terminal was a wholesale petroleum facility. (Exh. 300, p. 29). The pier was a 390-foot-long wood structure. The Total dock had four mooring pile clusters, numbered one through four respectively from west to east. The four mooring pile clusters were positioned so that moored vessels lay against the two center clusters. Vessels such as the JUPITER secured their mooring lines to the wood center pile of each cluster that extended above the other piles in each of the pile clusters.[7] *Id.*

The winches on board the JUPITER were numbered 1 through 4, from bow to stern. The vessel's parallel midbody (straight sides of the hull) lay against the numbers 2 and 3 pile clusters at the Total Petroleum facility. (Exh. 24, 300, 358D). The numbers 1 and mooring wires led fore and aft, respectively, to the Nos. 1 and 4 pile clusters, which were set back and made no contact with the vessel's hull. *Id.* The No. 2 mooring wire was led aft as a spring line and secured to the No. 2 pile cluster. *Id.*

---

7. Cluster No. 1 consisted of 14 piles. Cluster No. 2 consisted of 19 piles. Cluster Nos. 3 and 4 consisted of 13 piles each. (Van Houten, Tr. Vol. XXVI, p. 43).

Similarly, the No. 3 mooring wire was led forward as an after spring line to the No. 3 pile cluster. *Id.* The two polypropylene mooring lines were led from the bow and stern to Nos. 1 and 4 pile clusters, respectively. *Id.* (*See* Appendix, Figure 2, JUPITER'S mooring arrangement).

a. Placing two lines on the Number 1 and Number 4 piling.

American Steamship argues that the JUPITER was unreasonable in placing two lines on the Nos. 1 and 4 pilings. American Steamship contends that David Porter testified that this doubling up of lines increased the maximum forces acting upon those two spiles and that "if there was insufficient capacity in that spile" it would be better if there were more distribution. (Porter, Tr. Vol. VI, p. 36). (ASC's claims against Total and CTI, p. 24). American Steamship also argues that Theodore Polgar testified that one should not moor a vessel with more than one line on one bollard. (Polgar, Tr. Vol. XI, p. 94). (ASC's claims against Total and CTI, p. 24).

David L. Porter is Vice-President at Child's Engineering Corporation. He has been with Child's for 20 years, during which time he has worked exclusively in the field of marine structures inspection, design and/or repair (Porter, Tr. Vol. VI, p. 10). With regard to the doubling up of lines on the No. 1 and No. 4 pilings, Porter testified:

> Q. What — what is your opinion regarding having a doubling up of lines on Spiles 1 and in terms of the holding power of the mooring arrangement?

Appendix C

> A. I have not looked at whether a single wire rope would — given the size that this vessel had on it versus the colley, what the effect is. The limiting factor will be — even if you put six lines on that same thing, the limiting factor is — is the load that you impose on that spile.
>
> If you in fact are — have an arrangement where you have two lines that are going to take load at the same point in time and then therefore generate the maximum load on that spile, it would be advisable to move them if — if there was insufficient capacity in that spile, so it would be better if you had more distribution, but it's not to say that doubling lines is necessarily needed there.

(Porter, Tr. Vol. VI, p. 36). Contrary to American Steamship Company's argument, a complete reading of Porter's testimony shows that the doubling up of the lines in the present case did not "increase the maximum forces" acting upon the Nos. 1 and 4 spiles; rather, Porter testified that the limiting factor (*i.e.*, the factor which would cause the piling to fail) on a piling is the load placed on that piling, and he testified that putting numerous lines on the same post does not increase the load.

Furthermore, this Court is unpersuaded by the testimony of Theodore Polgar, a retired United States Coast Guard Commander, on this point. While Polgar testified that two lines should not be place on one bollard, he did not satisfactorily

explain why. (Polgar, Tr. Vol. XI, p. 94). Polgar was unable to state that, had two lines not been placed on one bollard, the breakaway would not have occurred. (Polgar, Tr. Vol. XI, p. 95).

Therefore, this Court concludes that the JUPITER was not negligent in doubling up the lines on the Nos. 1 and 4 pilings.

b. Failing to have bow and stern leads.

Claimants argue that the JUPITER was moored in violation of the Code of Federal Regulations, which provided in 1990 that "no person may conduct an oil transfer operation unless . . . the vessel's moorings are strong enough to hold during all expected conditions of surge. . . ." 33 C.F.R. § 156.120 (1990). American Steamship and the claimants rely on the testimony of Polgar to establish the proposition that the JUPITER's failure to have bow lines leading forward and stern lines leading aft constituted an act of negligence.

While Polgar testified that adding extra dolphins and spiles would have improved the mooring arrangement "significantly," Polgar was unable to testify as to whether or not adding extra dolphins and spiles would have precluded the break-away that occurred in the present case. (Polgar, Tr. Vol. XI, p. 95). In fact, he testified that "whether or not that would have precluded the break away, I have no way of knowing without some sort of detailed analysis by someone qualified to make such analysis." *Id.* He also testified in deposition that the moorings "would have been adequate if the spile hadn't carried away." (Polgar, Tr. Vol. XII, p. 46).

Furthermore, while Porter testified that a "more appropriate layout" for the dock would provide for bow and stern leads

(Porter, Tr. Vol. VI, p. 35), and that bow and stern leads would enhance the safety of the dock, he could not say that the dock as designed was unreasonable. (*Id.* at 39-40). Also, Porter testified that the fact that the JUPITER extended beyond the length of the dock did not create an unsafe condition. (*Id.* at 85):

Captain Donald Erickson, a master mariner and captain for the Ford Motor Company for twenty-five years, testified:

> Q. You would agree with me, sir, a reasonably prudent mariner in this situation of being at a dock, would have his bow and stern lines leading fore and aft in order to limit the movement of the vessel along the dock, particularly in the event of the failure of a post?
>
> A. No. As long as you have equal balance in the forward and after end, you've got six lines here, you got — you got in equal balance you've got two lines for — your number one line is leading aft — aft, your number six line is leading forward, your number two line is leading forward, and your number four line is leading forward. Your number three line is leading aft and your number five line is leading aft. You have a equal balance all the way around her, you have as many leading forward as you do aft.

(Erickson, Tr. Vol. XXIII, p. 8).

Appendix C

Leonard Van Houton, a consulting engineer and a registered professional engineer who was tendered by Total as a dock design, inspection and maintenance expert, opined that the Total facility on September 16, 1990, provided a reasonably safe berth for the JUPITER. He recounted that there was no necessity for additional bow and/or stern lines (Van Houten, Tr. Vol. XXVI, pp. 65-66).

This Court concludes that the JUPITER was not negligent in failing to extend bow lines tending forward and stern lines tending aft.

c. Failing to reject the mooring arrangement as "inadequate and unsafe."

Polgar testified that, due to the condition of the No. 4 king pile, the fact that insufficient mooring lines were out, and the fact that the vessel was located far too close to a navigable channel (Polgar, Vol. X, p. 121), the JUPITER was moored in violation of 33 C.F.R. § 156.120(a), *supra*.

This Court shall address the allegations with respect to the condition of the No. 4 piling in connection with the allegations of negligence against Total Petroleum. For purposes of this discussion, however, this Court finds that the evidence presented at trial did not establish that the JUPITER was unreasonable in failing to detect the alleged dry-rot condition within the No. 4 piling. No one testified that if the king pile was defective, the condition would have been, or should have been, evident to anyone associated with the JUPITER. Accordingly, this Court holds that claimants have failed to establish that the crew of the JUPITER was negligent in tying up to the No. 4 king pile.

Furthermore, this Court has already found that the JUPITER did not extend "insufficient mooring lines." With respect to the proximity of the JUPITER to the shipping channel, Van Houten testified that the Total dock was adequate taking into consideration the location of the pilings, the number of pilings, and the physical location of the dock in relationship to the shipping channel. (Van Houton, Tr. Vol. XXVI, p. 67).

Based on the evidence presented, this Court is unable to conclude that the JUPITER was "too close" to the navigable channel or was otherwise improperly and unreasonably moored.

d. Failing to use the "fifth cluster."

In May, 1989, Total Petroleum installed a fifth 21-pile cluster, about 50-80 feet upstream of the No. 1 pile cluster, specifically to moor a large "Amoco barge" that had its cargo valve manifold located at the after end of the vessel. This mooring device consisted of three 12-inch steel pilings driven in the center of a 21-pile cluster. Filled with concrete, these steel piles extended above the wood piles to which the barge's mooring lines were fastened. (Exh. 300, p. 31).

The evidence indicates that the "fifth cluster" was not installed in order to provide a bow lead for ships using the Total facility. In fact, it was installed solely for the purpose of providing a breasting dolphin for the Amoco barge because it discharged from its bow rather than at midships. (Buchalski, Tr. Vol. XVI, pp. 153-54, 209). None of the witnesses testified that the fifth cluster was available for use by ships moored at the Total facility, or that it was feasible for ships moored at the Total facility to use the fifth cluster.

Therefore, this Court holds that the JUPITER's failure to use the "fifth cluster" did not constitute an act of negligence.

e. JUPITER allowed her mooring to become loose thus allowing her to surge.

American Steamship contends that the fact that the JUPITER surged approximately 10 feet aft proves that she was not tightly moored. American Steamship claims that Professor Robert Beck testified that a tightly moored ship should not move more than one and a half feet given the hydrodynamic relationships of the two vessels (Beck, Tr. Vol. XX, p. 48) (ASC's claims against CTI and Total, at 47). American Steamship argues that an unmoored vessel, on the other hand, would move 60 feet, regardless of the BUFFALO's speed (Beck, Tr. Vol. XX, pp. 46-48). Professor Beck's testimony on this point was as follows:

> Q. But the point is the — the movement is controllable by the use of the lines in this situation, and if you take the ship and have it tautly moored as you've described, it's not going to move more than half a foot.
>
> A. Yeah, basically, due to the — assuming the stretch in these cables.
>
> Q. On the other hand, if the vessel is not moored, it's — it's going to move freely, and your order of magnitude is somewhere over sixty feet.
>
> A. Yeah, independent of speed.

Q. Okay.

A. And in between those two numbers, it all depends on the stretch, and the stretch includes, I mean, the — the stretch in the cables but also what happens to the — mooring dolphin.

Q. Whether it bends and the like.

A. Whether it bends and all that.

Q. And that's also the function of how high up the cables —

A. Yeah.

Q. — have ridden on the wooden — wooden spiling.

A. Yeah.

Q. — that if it's resting low, obviously it's going to bend less than —

A. Yes.

Q. — thrusting high —.

A. It'll bend —

Q. — so if a ship had lines coming down to the post at an angle and started to move,

you might expect the line to go up the post?

A. I guess, because the post would bend over, yeah.

(Beck, Tr. Vol. XX, pp. 48-49).

American Steamship has failed to establish that Professor Beck took into account the stretch in the lines on board the JUPITER, the location of the lines on the pilings (whether they rested low or high), and the extent to which the pilings bent as the JUPITER surged in her moorings.

The above testimony does not establish that the JUPITER was moored unreasonably by virtue of the fact that she surged backward approximately ten feet. Furthermore, the above testimony does not establish that a "tightly moored" ship, which would supposedly only move "a half a foot" in her moorings, is also a "properly moored" ship; *i.e.*, it may be possible for a 392-foot tankship to move a total of ten feet in response to the surge forces faced by the JUPITER and still be properly moored. This Court is not convinced that a ten-foot movement on the part of the JUPITER establishes that she was not properly moored.

American Steamship also relies on the testimony of Daniel Meyers, the wheelsman aboard the BUFFALO, who noticed a slack line at the stern of the JUPITER as they began their passage. (Meyers, Tr. Vol. XII, p. 16). This Court notes, however, that Meyers' observation was made from a distance of 600 feet, and that his observation was "just a glance" as he was making the BUFFALO turn to the right (*Id.* at 16). Furthermore, Meyers' observation contradicts the testimony of Seltz, Walton and Rentschler.

Appendix C

The JUPITER was tight up against the number 2 and 3 pilings when the initial tie up was completed (Garner, Tr. Vol. XXI, p. 24). During the course of the discharge, 44 Elmer Seltz, of Total Petroleum, made periodic inspections of the tie up and testified that JUPITER remained tight to the dock (Seltz, Tr. Vol. XXII, p. 159). Peter Walton, first mate on the JUPITER, testified that his standard practice is to readjust the lines twice during the course of his watch to ease any tension off the lines as the ship rises (Walton, Vol. XVIII, pp. 11-22). This is due to the fact that during discharge the ship rises and as such the lines get tighter (Stengel, Vol. XIV, p. 27).

Walton is positive that on September 16, 1990, he adjusted the lines at approximately 7:45 a.m. (Walton, Tr. Vol. XVIII, pp. 12). At that time, he adjusted all four wires so as to ensure that the ship was tight to the dock (*Id.* at 38-39). To do this, Walton turned on the winch, thus relaxing the wires, before putting maximum pull on the wire and ensuring that the ship was tight to the dock (*Id.* at 41).

Rentschler again checked to ensure that the JUPITER was snug to the dock. He performed his inspection by observing the JUPITER in relationship to the dock so as to certify that the ship was snug to the pilings and by also kicking on the lines (Rentschler, Dep. p. 32). Testimony indicates that this is the proper procedure for inspecting the tautness of the lines (Polgar, Tr. Vol. XI, p. 48, Tr. Vol. XII, p. 28; Stengel Tr. Vol. XIV, p. 49; Beckwith, Tr. Vol. XVI, p. 117).

In sum, this Court is not convinced that the JUPITER's moorings were "too loose."

f. JUPITER failed to have the winches properly manned in a timely manner.

American Steamship claims that the actions of Randall Skinner establish that the winches on board the JUPITER were improperly manned. When asked to describe his actions on the morning of September 16, Skinner testified:

> Q. And what was occurring that was unusual; did you see the Motor Vessel BUFFALO coming in?
>
> A. Not until after I got on the controls, the winch, and I looked back and I saw the BUFFALO coming by. It looked a little fast and a little close to our ship.
>
> And at the same time, I looked forward again. I checked the wires and, as I said before, the pilings were leaning hard toward the ship.
>
> Q. Now at that particular time, you were instructed by the mate to go over to the after winch controls?
>
> A. Yeah, the after winch. Yes.
>
> Q. On the starboard side?
>
> A. Starboard side, yes.
>
> Q. What did you do there; did you turn the winch on?

Appendix C

A. I had time to push the buttons on. And just after I pushed them on, I was looking at the pilings and they were leaning hard toward the ship because the waves were coming hard.

And it just broke off, the piling broke off. The center part of it broke off where the stern wire was tied on to it and the number four wire.

So therefore, I couldn't heave in on it because it broke. And I didn't heave in on number three because the ship was already going forward and going out too fast.

Q. What setting were the winch controls at when you turned them on?

A. They were on neutral.

Q. Neutral. Did you notice any movement of the vessel? We're trying to determine how the vessel was reacting to —

A. It was going a little bit side to side, just a little, because the wires was going in and out a little bit due to the wake.

Q. You saw the wires moving —

A. Moving in and out a little bit, yes.

Q. Was the ship still tight up against —

A. It was still tight. In fact, it was real tight because the piling was leaning toward the ship itself, and therefore number four wire and also the poly was pulling on the awning of the ship, was trying to move away from the dock.

(NTSB, pp. 821-823).

Even assuming that Skinner manned the Nos. 3 and 4 winches in an "untimely manner," claimants have not shown that Skinner's failure to earlier "heave in" on the Nos. 3 and 4 lines was a cause of the accident. Skinner could not heave in on the No. 4 winch because the piling, which was leaning toward the ship, broke. Skinner could not heave in on the No. 3 winch because, given the configuration of the mooring arrangement, heaving in on the No. 3 wire would have pulled the vessel, which was already moving in a forward direction, forward at a faster rate.

Skinner testified that, when he arrived, the ship was "tight" and the pilings were leaning "hard" toward the ship. American Steamship has failed to establish that, had Skinner arrived earlier, he would have "heaved in" on the Nos. 3 and 4 wires and that this would have helped prevent the accident. This Court finds that the evidence regarding Skinner's manning of the winches does not establish negligence on the part of the JUPITER.

g. Conclusion

Claimants contend that the JUPITER committed a statutory violation of 33 C.F.R. § 156.120, which provides that the vessel's mooring must be strong enough to hold during all expected conditions of surge. This Court holds that the JUPITER did not violate the provisions of 33 C.F.R. § 156.120, because the surge forces which occurred in response to the BUFFALO's passing could not reasonably have been "expected." This Court further holds that the claimants and American Steamship Company have failed to show that the JUPITER was negligently moored to the Total Petroleum facility.

2. ASC and Claimants claim that Cleveland Tankers' method of monitoring river traffic constituted negligence.

a. The JUPITER crew should have been monitoring channel 16.

American Steamship and the claimants argue that the JUPITER should have been monitoring channel 16 (either in the pilothouse or by using walkie-talkies). Polgar, a retired United States Coast Guard commander, testified that U.S.C.G. inspectors have the right to cite a vessel for any unsafe practice (Polgar, Tr. Vol. X, p. 8; Vol. XI, p. 27; Vol. XII, p. 70). Polgar testified that he would not have cited JUPITER for not monitoring channel 16 (Polgar, Tr. Vol. X, p. 98-99), nor did he believe the failure to monitor channel 16 to be an unsafe practice (Polgar, Tr. Vol. X, p. 101-102).

Finally, claimants assert that had the JUPITER crew been monitoring channel 16, they would have been aware of

BUFFALO's entry into the channel 20 minutes earlier. However, the CLYMER passed the JUPITER approximately five hours earlier. In that event, even though the JUPITER crew knew that the CLYMER was downbound long before she was visually sighted (Stengel, Tr. Vol. XIV, p. 52), it wasn't until the CLYMER was visually observed at the Independence Street Bridge that the shutdown commenced (Stengel, Tr. Vol. XIV, p. 39). Shutdown was completed and the CLYMER passed without incident. Claimants have failed to establish that, had the crew of the JUPITER monitored channel 16 and known ahead of time that the BUFFALO was going to pass, the crew would have behaved differently. Claimants have not shown that the failure to monitor channel 16 was a cause of the explosion which occurred. Therefore, this Court declines to hold that the failure to monitor channel 16 was an act of negligence on the part of the JUPITER.

b. JUPITER failed to hail the BUFFALO as she made her approach.

American Steamship claims that the JUPITER should have hailed the BUFFALO and told her to slow down. The JUPITER had a right to expect that the BUFFALO would slow down and pass at a reasonable and prudent speed and at a reasonable and prudent distance. (Polgar, Tr. Vol. XII, p. 26). American Steamship has failed to establish that the JUPITER had a duty to hail the BUFFALO as she made her approach, and that, even if she did have such a duty, this failure was a cause of the claimants' injuries.

c. JUPITER failed to post a lookout.

American Steamship and the claimants argue that a lookout should have been maintained on board the moored JUPITER. It

is uncontested that a lookout is not required by law on a moored vessel. However, claimants argue that the failure to post such a lookout violated the duty to exercise due care during cargo transfer operations. While no one person on board the JUPITER was assigned the singular task to watch out for ships approaching the discharging JUPITER, the trial testimony indicates that all individuals on a watch were required to keep a lookout for approaching vessels (Warren, Tr. Vol. VII, p. 165; Stengel, Tr. Vol. XIV, p. 63; Beckwith, Vol. XVI, pp. 51-52; Walton, Vol. XVIII, p. 80).

Using this method, the JUPITER crew sighted the BUFFALO when she was approximately 2,250 feet away (approximately 300 feet before the BUFFALO reached the D&M Railroad Bridge) (Rentschler, Dep. p. 41). Thus, JUPITER's visual observation did reveal the presence of the BUFFALO.

Claimants and American Steamship have failed to establish that, had one person on board the JUPITER been singularly responsible for maintaining a lookout, the BUFFALO would have been sighted earlier. Furthermore, Claimants and American Steamship have failed to establish that, had a sighting been earlier made, the crew of the JUPITER would have prepared for the passage of the BUFFALO in a different fashion than they actually prepared. Finally, it has not been established that, had a sighting earlier occurred, such a sighting would have helped prevent the claimants' injuries. Therefore, this Court declines to hold that the failure to post a lookout constituted an act of unreasonableness on the part of the JUPITER.

Appendix C

3. ASC challenges the qualifications of Daniel Rentschler.

American Steamship clams that, because six or seven minutes passed from the time Skinner heard the Buffalo's whistle until Rentschler told him to go and stand by his winch (Skinner, NTSB testimony, p. 863), Rentschler somehow negligently performed his duties. (Claims of ASC against CTI and Total, p. 37, claim 21). Polgar testified that Rentschler had a right to assume that the BUFFALO would act in a reasonable and prudent manner and would pass at a reasonable and prudent speed (Polgar, Tr. Vol. XII, p. 26). He also confirmed that Rentschler behaved in an appropriate and timely fashion upon seeing the BUFFALO (Polgar, Tr. Vol. XI, pp. 126-127).

Donald Erickson, a retired captain from Ford Motor Company with over 25 years experience, testified that Rentschler's primary responsibility upon spotting the BUFFALO was to "think of his own vessel first . . . he would go down and make sure that his men are watching the winches and make sure that they were in good shape and maybe after that he would think of how this guy [the BUFFALO captain] is running his boat." (Erickson, Tr. Vol. XII, p. 56). Erickson made no criticisms of Rentschler's conduct.

American Steamship also claims that Rentschler was not properly equipped to fight the fire on the JUPITER. Rentschler attended a fire fighting school in Toledo put on by the Department of Transportation (Rentschler, Dep. p. 124). Proof at trial demonstrated that mock fire drills were performed at least monthly aboard the JUPITER as part of continuous crew training for emergency situations (Walton, Vol. XVIII, p. 15). Further, the expert testimony at trial indicated that *no one* would have been

able to fight the fire on board the JUPITER (Polgar, Tr. Vol. XI, p. 131; Grammenos, Tr. Vol. III, p. 22). Thus, even if Rentschler were inadequately trained with regard to firefighting, it has not been established that this fact was a cause of the claimants' damages.

4. ASC claims that the JUPITER crew failed to shut down her discharge pumps prior to the BUFFALO's passage.

The following allegations of negligence concern the cargo discharging procedures employed by the JUPITER. The following three allegations of negligence shall be addressed together:

a. JUPITER failed to stop pumping as the BUFFALO passed the JUPITER

b. JUPITER failed to turn off all cargo pumps using the master kill switch.

c. JUPITER allowed cargo operations to continue when the deck was covered with dangerous amounts of flammable vapors.

In anticipation of a vessel's passing, the cargo-transfer watchkeepers on board the JUPITER were required to take certain precautions. Specifically, in anticipation of a vessel's passing, they were under a directive to man the mooring-line winches, an instruction intended to reduce the likelihood that the JUPITER would break free from her moorings. (Beckwith, Tr. Vol. XV, pp. 191-192; Grammenos, Tr. Vol. II, p. 128; Prescott, Tr. Vol. II, p. 58). In addition, they were also directed to secure

the ship's cargo-transfer pumps; *i.e.*, to stop pumping gasoline as part of the transfer operation. (Beckwith, Tr. Vol. XV, pp. 191-192; Grammenos, Tr. Vol. II, p. 58; Warren, Tr. Vol. VII, p. 165).

Several potential sources of gasoline spillage were identified by trial witnesses who were familiar with the gasoline transfer operations on board the JUPITER. These potential sources included:

1. Backflow from the dockside pipeline. (Walton, Tr. Vol. XVIII, p. 176; Warren, Tr. Vol. VIII, pp. 5-9, 87-89, 106).

2. Spillage from a ruptured or disconnected cargo-transfer hose. (Beckwith, Tr. Vol. XV, pp. 224-25; Walton, Tr. Vol. XVIII, p. 116; Warren, Tr. Vol. VIII, p. 35).

3. Spillage from a purge line. (Beckwith, Tr. Vol. XV, pp. 224-25; Walton, Tr. Vol. XVIII, p. 29; Warren, Tr. Vol. VIII, pp. 21, 28, 32).

Shutting down the shipboard transfer pump would take the pressure off the line and stop the movement of oil through the lines; however, the manifold, hose and pipeline would continue to hold substantial amounts of gasoline. (Walton, Tr. Vol. VIII, pp. 19, 21-2, 119, 176; Warren, Tr. Vol. VIII, p. 96). The transfer hose itself would hold between three and seven barrels of gasoline, or from 120 gallons to possibly as much as 300 gallons. (Beckwith, Tr. Vol. XV, pp. 224-25; Walton, Tr. Vol. XVIII, pp. 117-18).

American Steamship argues that the testimony of Professor Barry Shorthouse establishes that the Nos. 2, 4 and 6 pumps

continued to operate through the passage of the BUFFALO. Professor Shorthouse testified that it took approximately one half minute for the vessel's deck to be engulfed in flames prior to the explosion. (Shorthouse, Tr. Vol. XXIII, p. 102). There was enough gasoline on deck to spill over the pollution bar and into the water. (Shorthouse, Tr. Vol. XII, p. 103). Based on the size and nature of the pre-explosion fire, Professor Shorthouse testified it was fueled by gasoline and not some other flammable material. (Shorthouse, Tr. Vol. XXIII, p. 107).

Shorthouse opined that the cargo hose did not contain a sufficient amount of gasoline to fuel the pre-explosion fire. Professor Shorthouse testified that ten to one hundred times the contents of the cargo hose would be needed. (*Id.*). Furthermore, the fact that so much product was able to travel the distance that it did across various barriers, including piping and deck equipment, indicated that the fuel was still being pumped and the cargo pumps were still on. Shorthouse testified that the fractured end of the cargo hose was "flailing like a garden hose" which was released while under pressure. (*Id.*, p. 121).

This Court finds the testimony of the eyewitnesses that the Nos. 2, 4 and 6 pumps were shut off prior to the passage of the BUFFALO to be more credible than the testimony of Professor Shorthouse, for the reasons which follow.

Professor Shorthouse based his testimony on information gathered by students in two courses at Wayne State University which used this incident as a model (Shorthouse, Tr. Vol. XXIII, pp. 79-80). Professor Shorthouse admitted that the source for his opinion was the factual investigation, interpretation and recommendation of the 40 students enrolled in his class (Shorthouse, Tr. Vol. XXV, p. 32). Shorthouse did not personally

investigate the facts and admits that "fact" sources which his students relied upon were "after the fact" sources; sources who arrived at the scene or became involved after the accident had occurred (Shorthouse, Tr. Vol. XXV, p. 36).

Professor Shorthouse's testimony is based upon his analysis of the photographs taken by Rose Cooper, Exhibits 17A-N. The only evidence offered as to Professor Shorthouse's educational expertise in reading photographs is that he is a chemical engineer. He has no educational training in reading or interpreting photographs (Shorthouse, Vol. XXIII, p. 130). With respect to his experience in this area, he discussed an incident in the Isle of Man where he calculated the volume of the gas involved in the fire through analysis of the spectra coming off of the flame in *spectrographic photographs* (Shorthouse, Vol. XXIII, pp. 131-132,134). Professor Shorthouse admitted, however, that Ms. Cooper's photographs were not spectrographic photographs and that the photographs had not been made for spectrometer, but were ordinary photographs (Shorthouse, Tr. Vol. XXIII, p. 136).

On cross examination, Professor Shorthouse reviewed photographs and could not tell the difference between a ten inch wide ullage pipe and a three foot wide access hatch (Shorthouse, Vol. XXV, pp. 8-11; Exh. 52D). Professor Shorthouse reviewed photograph 17D, which depicts the first explosion, or "bleve" (Shorthouse, Tr. Vol. XXIII, p. 127). In Professor Shorthouse's opinion, the explosion or "bleve" occurred at the number 1 starboard tank (Shorthouse, Vol. XXIII, pp. 143-145). This analysis is refuted by the undisputed fact that Daniel Rentschler was standing at the forward end of the vessel immediately above the number 1 tank at the time of the first explosion, and Rentschler is still alive. (Rentschler Dep. pp. 91-92).

Appendix C

Shorthouse ignores the eyewitness testimony that the fire broke out on the dock and opined, based on his analysis of the Rose Cooper photographs and his own assumptions, that the fire originated on the ship. He admitted, on cross examination, that he never examined the motor-operated valve or its electrical connections, nor had his students (Shorthouse, Tr. Vol. XXIV, pp. 159-160). The USCG/NTSB findings reveal that the ignition source was a torn dock side electrical connection to the motor operated valve. (Exh. 300, ¶ 10; Exh. 56, ¶ 51: "electrical power circuit to the gasoline pipeline MOV control was torn out of its conduit, wires were stripped and had fused places where they had arced to the ground").

Warren testified that he observed a spark or flash on the dock near the motor-operated valve. There was one spark, then a second, and then flame erupted on the dock. He testified that the flame initiated in the area of the motor-operated valve. (Warren, Tr. vol. VIII, pp. 26-27). Warren testified that after the purge line broke, product was spilled onto the dock and shot forward and onto the deck of the JUPITER (Warren, Vol. VII, pp. 28, 32, 36, 93). Warren then stated that as the JUPITER moved forward, a great deal of strain was put on the discharge hose. The hose subsequently "disintegrated" somewhere around 5 to 10 feet away from the ship's manifold but still over the ship itself. (Warren, Tr. Vol. IX, pp. 41-42, Tr. Vol. VIII, pp. 34, 35). Warren then observed a fire on the ship "before the [discharge] hose went" (Exh. 56, ¶ 42).

Peter Walton testified that as the ship began to move forward, the purge line on the dock broke, causing gas to spill onto the dock. He then saw two sparks which initiated the fire on the dock and then spread to the ship (Walton, Tr. Vol. VIII, p. 29).

Appendix C

Skinner testified that as the JUPITER moved forward, her discharge hose caused the pipe on the dock to twist (Skinner, NTSB, p. 825) resulting in a fracture just aft of the dock manifold (*Id.*, pp. 846, 847, 880). When the dock pipe broke, gasoline was sprayed all over the area (*Id.* p. 877). Shortly thereafter, sparks were seen on the dock (*Id.*, pp. 826, 845). This resulted in a fire on the dock which ran up JUPITER's discharge hose onto the ship itself (*Id.*, p. 847).

Professor Shorthouse concluded that the pumps were still running in part because the running pumps will cause a static charge in the fuel which is released through the alleged rupture of the hose, causing a source of ignition for the fire (Shorthouse, Vol. XXIII, pp. 118-119). Professor Shorthouse assumes in making this opinion that the grounding line or "earthly line" as he referred to it, had broken before the hose broke (Shorthouse, Vol. XXIII, p. 119). As pointed out on cross examination, Shorthouse had no idea as to the substance of the hose itself. He admitted that if the hose was polymer (which it is)[8], it would be non-conducting. (Shorthouse, Tr. Vol. XXV, pp. 7-8). Shorthouse also acknowledged that the metal reinforcement in the hose, which was evidenced by the "slinky" in the photos, would dissipate the static electricity (Shorthouse, Tr. Vol. XXIV, p. 157) and neutralize the static charge. Despite these acknowledgments, Shorthouse continued with his belief that the fire originated on deck as a result of the rupture of the JUPITER's discharge hose.

Shorthouse also opined that cargo hose contained 17 cubic feet of fuel (Shorthouse, Vol. XXIII, p. 113), and based on his initial testimony, 17 cubic feet of fuel is insufficient to fuel the

---

8. (Stengal, Tr. Vol. XIV, p. 31).

fire depicted in Exhibit 17A, B and C (Shorthouse, Tr. Vol. XXIII, p. 115). Thus, he concluded that the pumps were still operating (Shorthouse, Tr. Vol. XXIII, p. 121). (Shorthouse, Vol. XXIII, p. 126). This is inconsistent with his later testimony that it would take about 10-15 cubic feet of fuel to get the range of fire depicted in photos A, B and C (Shorthouse, Tr. Vol. XXIII, p. 126).

In contrast, all of the eyewitness testimony presented, including that made by individuals making claims against the JUPITER (James Warren and Peter Walton), is that the pumps were shut down prior to the passage of the BUFFALO. In anticipation of the passage of the BUFFALO, Rentschler ordered the pumps then being employed to be shut down and the winches manned. (Exh. 56 (USCG Report) at ¶ 28, p. 14). Rentschler testified that he personally shut down pumps Nos. 4 and 6 and ordered Sexton to shut down pump No. 2. (Rentschler, Dep. p. 42). Rentschler saw Sexton go to the area of the No. 2 pump and assumed that he shut it down (Rentschler, Dep., p. 42).

Warren testified that prior to the passage of the BUFFALO all pumps (pumps 2, 4 and 6) were secure. Sexton shut off number 2 and was walking toward the winches as the BUFFALO approached (Warren, Tr. Vol. VIII, p. 7, Tr. Vol. IX p. 26). Warren testified that he knows Sexton shut down pump number 2 because he saw the cargo hose go slack (Warren, Tr. Vol. VIII, p. 96).

Peter Walton testified that he could tell by the sound that the number 6 pump had been shut down and could tell that all of the other pumps had been shut down by viewing the discharge hose which had gone slack (Walton, Tr. Vol. XVIII, pp. 18, 19). Walton testified that if even one pump had been operating, the ship's discharge hose would have stiffened (and it did not) (Walton, Tr.

Vol. XVIII, p. 22). This Court finds that the Nos. 2, 4 and 6 pumps were shut down prior to the passage of the BUFFALO and American Steamship's contention that they were not is unpersuasive.

American Steamship criticizes Rentschler for failure to shut down the pumps with a "master kill switch." (ASC claims against CTI and Total, at 42). Walton testified that there were two ways of shutting down the cargo pumps. One way would be to turn all the rheostats for the individual pumps to zero; the other would be to hit a single emergency kill switch (Walton, Vol. XVIII, p. 128). Rentschler, in shutting down the pumps, used the rheostats and informed Sexton to go forward and shut off pump No. 2. The testimony indicates that the pumps were properly shut off prior to the BUFFALO's passage. American Steamship has not shown how a failure to shut off the pumps with the kill switch would have altered the situation, or served to prevent the accident which occurred. Therefore, this claim is without merit.

American Steamship criticizes the JUPITER for allowing cargo operations to continue when the "deck was covered with dangerous amounts of flammable vapors." (ASC's claims against CTI and Total, at 43). American Steamship has failed to prove that the JUPITER was *unreasonably* covered with flammable vapors. Captain Beckwith testified that the fire was fueled by fumes on deck "which were no different in quantity than the level of fumes which would be present during normal cargo operating procedures and normal shutdown procedures (Vol. XVI, pp. 25-26)" (*Id.*). Accordingly, this Court declines to hold that the vapor accumulation on deck constituted an act of negligence.

Appendix C

5. JUPITER failed to utilize a quick release coupling on the cargo hose.

American Steamship claims that the cargo hose on board the JUPITER should have been equipped with some form of quick disconnect. American Steamship argues that the cargo hose and the flange are the most vulnerable aspects of a transport system (Shorthouse, Vol. XXIV, p. 23). The rupture of the hose poses a risk of fire. (*Id.* at 35). American Steamship claims that the "flange used in this case was not appropriate for a toxic substance like gasoline, and a quick disconnect coupling would have been preferable (Vol. XXIV, pp. 25-26). A quick disconnect coupling would have released as soon as tension was placed on the cargo hose, sealing the product inside the hose (Vol. XXV, pp. 83-86)." (A.S.C. claims against CTI and Total, at 46).

Professor Shorthouse admitted on cross-examination, however, that he was not aware of any tankers or any terminals on the Great Lakes which use a quick disconnect coupling (Shorthouse, Vol. XXV, pp. 21-22). Polgar opined that during his years with the Coast Guard, he has never seen a disconnect coupling used on a tanker (Polgar, Tr. Vol. XI, p. 114). Leonard Van Houten, who designs and builds petroleum facilities for a living, testified that quick disconnects were not available in September 1990 for a discharge hose the size used by the JUPITER. (Van Houten, Tr. Vol. XXVII, pp. 86-87). Finally, Skinner, who has been sailing since 1949 and served four years in the United States Coast Guard, also testified that there were no United States Coast Guard approved quick disconnects in 1990 (*Id.*, p. 874).

The evidence presented is insufficient to establish that the cargo hose mechanism utilized by the JUPITER in September of

1990 was unreasonable, even without a quick disconnect coupling.

6. JUPITER railed to properly secure the shoreside motor operated valve control aboard the JUPITER

The cord of the motor-operated valve shut off switch was "wrapped around" the JUPITER's railing. (Warren, Tr. Vol. VIII, p. 76). Polgar testified that locating the motor-operated valve shut off switch on the gangway was appropriate (Polgar, Tr. Vol. XII, p. 86). Claimants have failed to establish that the location of the motor-operated valve switch on board the JUPITER was unreasonable.

7. Captain Beckwith failed to act properly.

a. The Captain failed to immediately sound the general alarm.

Captain Beckwith testified that he was in the passageway immediately prior to the passing of the BUFFALO. From this location, he heard the winches "groan." He then ran out onto the deck and saw the BUFFALO moving ahead. He also saw that the winches were properly manned. (Beckwith, Tr. Vol. XVI, pp. 164-65).

Captain Beckwith indicates that he went to the pilothouse with the intention to call the BUFFALO to tell her "a lot less speed through here would be appreciated". (*Id.*). Beckwith grabbed the radio; however, he did not call the BUFFALO. At this time, he saw the bow of the JUPITER breaking away from the dock and also viewed the hose stretching. (*Id.*, p. 200). He saw the metal supports and other matters on the dock being pulled up river. (Id., p. 202). Beckwith called the Coast Guard.

He testified that he did not immediately activate the foam monitors because there was no fire. (*Id.*, p. 210). He did, however, immediately set off the general alarm. This is an indication for all crew members to take their "emergency stations". (*Id.*, p. 211). This Court finds that there was no undue delay in setting off the general alarm.

b. The Captain failed to immediately activate the JUPITER's foam system.

Immediately upon observing a fire, Captain Beckwith activated the foam monitor (Beckwith, Tr. Vol. XV, p. 212). This Court finds that no undue delay occurred with respect to the activation of the foam monitor.

8. Cleveland Tankers failed to properly investigate the statements Or the chief engineer.

American Steamship argues that on February 18, 1986, Charles Prescott, chief engineer aboard the JUPITER, wrote a letter to Marge Kane at Cleveland Tankers (Exh. 49). "In it, he outlined his 'embarrassment' at the JUPITER's lack of preparation for a fire, and referenced his recent attendance at a fire fighting school as well as some possible measures which could be taken to improve the JUPITER's fire-fighting capabilities." (ASC's claims against CTI and Total, p. 36). American Steamship claims that Cleveland Tankers did not appropriately follow-up on Prescott's suggestions.

Prescott suggested that the JUPITER be equipped with an inert gas system. For the reasons discussed in connection with allegation 13, this Court finds that Cleveland Tankers was not unreasonable in failing to equip the JUPITER with an inert gas system.

Prescott also suggested that the JUPITER should have a "foam smothering system." Grammenos testified that such a system was unworkable on a vessel of the JUPITER's size (Grammenos, Tr. Vol. III, p. 21). The testimony presented shows that Cleveland Tankers did look into Prescott's suggestions and found them wanting of support. This Court declines to hold that Cleveland Tankers made an "unreasonable" investigation in response to Prescott's suggestions.

9. Cleveland Tankers failed to provide the chief engineer with a system to activate the foam fire-fighting equipment.

American Steamship claims that Prescott requested that a junction box be installed in the engine room so that the liquid foam valves could be operated if it were ever needed. (Prescott, Tr. Vol. II, p. 23). American Steamship further argues that "he never got any response to this request, even though it was raised by way of a formal request for work to be done during the other winter repairs (Prescott, Tr. Vol. II, p. 24)." (ASC claims against CTI and Total, p. 43).

Even assuming Prescott did not get a response to his request (the testimony indicates that he did — *see* Tr. Vol. II, p. 24), American Steamship has failed to demonstrate that this lack of a junction box was a proximate cause of the explosion on board the JUPITER. Captain Beckwith testified that immediately upon seeing a fire, he activated the foam system. (Beckwith, Tr. Vol. XV, p. 212). American Steamship has not shown that, if a junction box was located in the engine room, it would have been activated faster by Prescott than it was in fact activated by Captain Beckwith.

Appendix C

10. JUPITER's flame screens rendered the ship unseaworthy.

This Court finds that the flame screens on board the ship rendered the JUPITER unseaworthy, and that the condition of the flame screens was a proximate cause of the explosion in the cargo tanks on board the JUPITER.

Section 154.822 of Title 33, Code of Federal Regulations, provides in part:

> Each flame screen required by this part [154 of Title 33] must be either a single screen of corrosion resistant wire of at least 30 x 30 mesh, or two screens, both of corrosion resistance wire, of at least 20 x 20 mesh, spaced not less than 25 millimeters (in inches) or more than 75 millimeters (1 1/2 inches) apart.

33 C.F.R. § 154.822(c) (1990). The Code provides further that "the term *flame screen* means a fitted single screen of corrosion-resistant wire of at least 30 by 30 mesh, or two fitted screens, both of corrosion-resistant wire, of at least 20 by 20 mesh, spaced not less than 1/2 inch or more than 1 1/2 inches apart." 46 C.F.R. § 30.10-25. Thus, the Code of Federal Regulations requires that the flame screens be "fitted."

The intended function of the flame screens was to arrest or prevent the passage of flames through the ullage openings and into the cargo tanks which would be laden with explosive gasoline vapors. (Polgar, Tr. Vol. X, pp. 64-65; Prescott, Tr. Vol. II, p. 302; Warren, Tr. Vol. VII, pp. 160-61). Consequently, there

should have been no free space around the circumference of any flame screen; each was intended to function by completely screening the ullage pipe into which it was installed. (Warren, Tr. Vol. VIII, p. 10). Any opening or gap around its perimeter, as the flame screen sits inside an ullage pipe larger than the openings one would find in 30 x 30 mesh screen, or in the alternative, in 20 x 20 mesh screen doubled, would render the flame screen ineffective. (Polgar, Tr. Vol. X, p. 65). "With the space around the perimeter, a flame screen would be ineffective, and the vapors in the tank would be susceptible to a source of ignition." (Polgar, Tr. Vol. X, p. 69).

The flame screens on board the JUPITER on September 16, 1990, were not in conformance with the requirement that the flame screens be "fitted":

> Q. Well, when you would have those [ullage caps] opened, did the . . . flame screen cover the whole area, or was there an open area?
>
> A. Well, there was an open area of circumference around it because you could slip a tape in between it.
>
> Q. You could do that?
>
> A. And — yes.
>
> Q. How much clearance was there for the tapes prior to being slipped in?

A. It would be less than an 1/8 of an inch, I would say.

(Warren, Tr. Vol. VII, pp. 160-61).

By virtue of the existence of such gaps around the circumference of the flame screens, this Court holds that they were not "fitted" within the meaning of 46 C.F.R. § 30.10.25.

The violation by the JUPITER of a regulation intended to prevent the very type of harm that occurred in this case shifts to the shipowner the burden to convince this Court that the improperly fitting flame screens did not cause, and could not have contributed to cause the losses sustained by these claimants. *See The Pennsylvania*, 86 U.S. (19 Wall.) 125, 22 L.Ed. 148 (1874).

Cleveland Tankers argues that the flame screens would have been overwhelmed during the time that the fire burned on deck, and that, accordingly, the ill-fitting flame screens could not have been a cause of the explosions. Professor Shorthouse testified that a properly fitted flame screen is designed to prevent the passage of flame for a "short period of time", which would have been overwhelmed by the flames in this case in only 5-10 seconds. (Shorthouse, Tr. Vol. XXV, pp. 99-101).

Cleveland Tankers argues that the undisputed testimony presented at trial shows that it took "well in excess of 5 to 10 seconds for the first explosion to occur" and that, because the flame screens would have been overwhelmed in 5-10 seconds, it is "beyond debate that the JUPITER's flame screens in this case fought off the passage of flame for a longer period of time than statutorily expected or required." (CTI's Response to ASC's

claims, p. 61). Cleveland Tankers argues that, assuming the flame screens were ill-fitted, such ill-fit could not have been the cause of the "calamity" because the flame would have passed through even a statutorily correct, perfectly fitted flame screen. (*Id.*, p. 64).

On the other hand, John Riley, a marine surveyor, testified that a "flame path" existed in the ullage pipes due to the gap between the edge of the flame screens and the ullage pipes. This "flame path" was the method by which fire travelled from the deck into the cargo space. (Riley, Tr. Vol. XIX, pp. 124-125). Riley further testified that, had the ullage caps been closed, thus eliminating the flame paths, the explosions would not have occurred because the fire on deck "could have been contained by an operating foam system." (*Id.*, p. 125).

In sum, Cleveland Tankers has failed to show that the fire was not, nor could not have been, caused by the ill-fitting flame screens. Thus, this Court holds that the JUPITER was unseaworthy due to its ill-fitting flame screens.

11. Allegations Concerning Failure to Close off All Openings Into the Tanks

Claimants argue that due care required methods for quickly containing and extinguishing any deck fire in the way of the discharge manifold and, most importantly, steps to eliminate or reduce the possibility that the fire could spread to one or more cargo tanks. (Polgar, Tr. Vol. X, pp. 74-75; Tr. Vol. XI, p. 133; Shorthouse, Tr. Vol. XXIV, pp. 38-39). Claimants contend that the latter included closing off openings into the tanks to isolate them from any fire on deck and to prevent fumes escaping them from feeding any fire on deck. (Polgar, Tr. Vol. X, pp. 76-77; Tr. Vol. XI, p. 108; Shorthouse, Tr. Vol. XXIV, pp. 40-41).

Appendix C

Professor Barry Shorthouse testified that, in order to prevent the risk of fire and explosion, one should separate the cargo and fumes contained in the cargo tanks from their supply of oxygen, without which they would not be combustible. In this regard, Professor Shorthouse testified that in any passage situation, one should "seal off' the cargo tanks by closing all access hatches, ullage caps, gate valves, and that the shoreside motor operated valve should be closed. (Shorthouse, Tr. Vol. XXIV, p. 44; Vol. XXV, p. 79).

The uncontradicted testimony is that Cleveland Tankers' shut down procedures in a routine passing situation required the crew to shut down the cargo pumps and stand by the winches (Grammenos, Tr. Vol. II, p. 128; Warren, Tr. Vol. IX, p. 23; Beckwith, Tr. Vol. IV, p. 192). Neither the motor-operated valve at the shipside end of the pipeline to the terminal nor any of the valves controlling the shipboard manifold were closed, and the ullage pipes remained uncovered. (Warren, Tr. Vol. VIII, pp. 8-9, 12, 77; Exh. 300, p. 24).

a. ASC claims that the JUPITER failed to close all available accesses to the cargo space

The evidence pointed to by American Steamship fails to establish that all access hatches to the cargo tanks were not secured. John Riley testified that it appeared that some of the access hatches had been open at the time of the incident, as demonstrated by their lack of damage (Riley, Tr. Vol. XIX, p. 89). Rentschler testified that, while some of the latches to any one hatch may have been unfastened, the tanks were still fastened by at least one latch. (Rentschler, Dep. pp. 35-36). Thus, the testimony presented does not establish that any of the accesses to the cargo space were open during the discharge procedure.

Appendix C

b. Failure to Shut the Shipside and Shoreside Valves

Claimants argue:

> It is obvious that, had the outer end of the dockside pipeline been capped effectively by closing the motor-operated valve on the pier, and had the ship's manifold valve been closed, the spillage which occurred when the hose ruptured would have been limited to that product which was in the hose at the time of the rupture. Had this been the case, prospects of a fire would have been lessened and the conflagration and resulting explosions which consumed the JUPITER likely would not have occurred.

(Claimants' Post Trial Brief, at 16). This Court is not convinced that, even assuming that the failure to close the motor-operated valve on the pier and the ship's manifold valve constituted unreasonable acts, these acts caused the explosions on board the JUPITER. The evidence shows that the cargo transfer hose itself would hold between three and seven barrels of gasoline, or from 120 gallons to possibly as much as 300 gallons. (Beckwith, Tr. Vol. XV, pp. 224-25; Walton, Tr. Vol. XVIII, pp. 117-18). Shorthouse agreed that the cargo hose contained approximately 17 cubic feet of fuel (Shorthouse, Vol. XXIII, p. 113). Shorthouse agreed that between 10-15 cubic feet of fuel was necessary to get the range of fire depicted in photos A, B and C. (Shorthouse, Vol. XXIII, p. 126; Exh. 17A, B, C). Thus, the trial testimony indicates that the cargo hose contained sufficient amounts of gasoline to fuel the fire which occurred on board the JUPITER.

Therefore, this Court declines to hold that such failures constituted acts of negligence.

c. Failure to Close the Ullage Caps.

Claimants further argue that:

> [H]ad the ullage pipes been closed, the venting of the tanks would have been redirected through the P/V valves, greatly reducing the likelihood that conflagration on deck in the vicinity of the transfer station would have spread to and ignited explosive air-gasoline mixtures in the tanks that exploded within moments after the hose broke and the fire started. (Polgar, Tr. Vol. X, pp. 72-73; Shorthouse, Tr. Vol. XXIV, pp. 11, 41, 43). This, too, would have lessened dramatically the risk and would have obviated the death through drowning from the jump overboard.

(Claimants' Post Trial Brief, at 17). For the reasons which follow, this Court agrees that the crew of the JUPITER negligently prepared for the passage situation by failing to close its ullage caps.

The flame screen installation on board the JUPITER precluded the use of the closed-gauging system. (Exh. 300, p. 20). The JUPITER did not use the closed gauging system when carrying Grade B cargo because it was not required by Coast Guard regulations and because crewmembers found the gauge mechanism unwieldy and the gauging tape difficult to read

through the heavy glass viewing port. (*Id.*). Instead, the crewmembers swung the gauge covers open and lowered handheld measuring tapes into each tank between the edge of the flame screen and the inside of the ullage pipe. (*Id.*). They then left the tapes hanging with the gauge covers open. The flame screen support did not provide a complete seal around the periphery of the screen. (*Id.*).

The President of Cleveland Tankers testified:

> Q. Okay. You are — had an understanding when the vessel was equipped and put into service, that when the vessel was used at the open gauging configuration, that once the measurement had been taken by the deck hand or pumpman, that the tape would actually be removed from the pipe and that the flame screen would then be placed back into the pipe, correct?
>
> A. Yes.

(Joeckel, Tr. Vol. XXIX, p. 2). This, in fact, was not the method of gauging employed by the crew of the JUPITER. John Riley, a marine surveyor, testified:

> Q. Okay. What did you determine about the way the cargo operations were done on this vessel, and that is were — they were using a closed — or open system?
>
> A. My understanding is that the — the crew

were using handheld tapes to measure the contents of the cargo tanks and that those tapes were left in position, defeating the object of the flame screens which are intended to maintain the gas-tight integrity of the cargo spaces, and by that I mean that if for any reason you had a — a fire outside of the cargo tanks, the purpose of a flame screen is to prevent the flame passage back into the cargo space — the cargo tank.

Q. And can you explain briefly to the Court what it is that a closed ullage system is supposed to accomplish in terms of controlling deck fires and the like?

A. The installation of the fixed level monitoring equipment . . . is intended so that the — the crew can determine the contents remaining in a cargo tank without breaching the gas-tight integrity of the cargo spaces because of the possible hazardous petroleum products or chemicals within those spaces.

Q. Are — obviously, fire is a big concern on a tanker carrying gasoline, isn't it?

A. That is correct.

* * *

Q. Sir, generally, though, the purpose of a cap on an ullage pipe is to prevent fire from the deck going into the cargo space?

A. Yes, sir.

* * *

Q. What's the function of a closed ullage system on a gasoline tanker?

THE COURT: You mean by "function," the purpose of having it closed?

MR. EMERY: Yeah.

THE WITNESS: Gas-tight integrity of the cargo space is to mitigate the possibility of the explosion because you've always got the possibility of a source of ignition. You've always got air, and you've also got hydrocarbons or flammable products normally; and the secondary consideration these days of increasing importance is the toxicity of the chemicals and the exposure to carcinogens.

(Riley, Tr. Vol. XIX, p. 63).

The President of Cleveland Tankers testified that a fire is not a foreseeable event from a breakaway and therefore it was not necessary to close the ullage caps so that the cargo tank would be

isolated prior to the time that a ship passed by. (Joeckel, Tr. Vol. XXIX, p. 37). Riley testified that a breakaway of a tanker discharging gasoline presents the risk of fire. (Riley, Tr. Vol. XIX, p. 100). Leonard Van Houten, a dock design, inspection, and maintenance expert, testified:

> Q. And you're aware of the fact that the crucial thing that needs to be done at an oil transfer facility in terms of the mooring configuration first and foremost is to protect the cargo transfer hose?
>
> A. That's — that's number one, number one, number one.
>
> Q. Okay. And obvious reason: one, you can cause pollution, but two, it can cause a fire.
>
> A. Yes.

(Van Houten, Tr. Vol. XXVII, p. 9). This Court finds that the President of Cleveland Tankers was unreasonable in failing to anticipate that fire could result when a ship containing 56,000 barrels of unleaded gasoline is involved in a passage situation.

Since the ullage caps were always left open during discharge procedures (Grammenos, Tr. Vol. II, p. 130), the flame screen was relied upon to keep a deck fire from entering the cargo space when open gauging was being used. (Joeckel Tr. Vol. 69 XXIX, p. 35). Nonetheless, Joeckel confirmed that one could not anticipate that a deck fire could be small and that the flame screen would hold a deck fire back. (Joeckel, Tr. Vol. XXIX, p. 36). Joeckel testified:

Q. And you've already testified, sir, that a flame screen is designed to arrest a spark or maybe, for a very short period of time, hold back a fire, correct?

A. Correct.

Q. And you would agree with me, sir, that you cannot anticipate that a deck fire will be small, and that a flame screen will hold it back, correct?

A. Correct.

Q. Therefore, sir, in order for your vessels to be properly prepared for a deck fire, there had to be some means of having the cargo insulated from both oxygen and source of ignition, correct?

A. Yes. Or have a vapor condition not conducive to explosion.

(Joeckel, Tr. Vol. XXIX, pp. 35-36).

By leaving the ullage caps open, and by relying on ill-fitted flame screens to prevent a fire, this Court holds that the JUPITER did not have a method on board of insulating the cargo from oxygen and a source of ignition. Riley testified that "[i]f the sounding tape was left in position, it . . . impeded the closing either of the flame screen or of the cap — the cover itself." (Riley, Tr. Vol. XIX, p. 77). He further explained that when the crew left the measuring tape in place along with the flame screen, the purpose of the flame screen was "defeated." (*Id.*). Riley testified:

Q. I was asking you about the ullage system. My particular question is what, if any, effect on prevention of propagation of deck fire into cargo fire does leaving a ullage tape have on the integrity of the system?

A. The separation of the surface gives you a flame path.

Q. And is that a significant factor in terms of the prevention of fire?

A. Yes.

Q. And why is that, sir?

A. Because any — any small fire on board on the deck outside of the cargo spaces could then pass back into the cargo tank and cause detonation of the contents.

(Riley, Tr. Vol. XIX, p. 86). Accordingly, Riley testified that the reasonable method of discharging fuel is to remove the tape, replace the flame screen, and then close the ullage cap (*Id.*)

This Court holds that, given the condition of the flame screens on board the JUPITER, the JUPITER's crew was unreasonable in failing to close the ullage caps during a passage situation. Because of the flame screens' inability to prevent an ignition source from passing into the cargo tanks, closing the ullage caps would have been the only method by which the cargo could have been isolated from a deck fire.

This Court further finds that the failure to close the ullage

caps was a proximate cause of the explosions which occurred on board the JUPITER. Riley testified that, by closing the ullage cap, the explosion which occurred inside the cargo tanks on board the JUPITER would have been prevented. (Riley, Tr. Vol. XIX, p. 125). Riley testified that the fire from the deck spread to the cargo tanks through the flame paths which existed in between the flame screens and the ullage pipes themselves. (Riley, Tr. Vol. XIX, pp. 124-125). He further stated that the fire on deck could have been contained with the on-board foam system. (*Id.*, p. 125).

This Court recognizes that the Coast Guard did not cite the JUPITER for its practice of leaving the ullage caps open; nor did the Coast Guard cite the JUPITER for its ill-fitting flame screens. However, Congress has required that the JUPITER be equipped with "fitted" flame screens, and, regardless of whether or not the Coast Guard cited the JUPITER for such violation, this Court finds that the JUPITER was unreasonable in preparing for a passage situation where the only means of preventing an ignition source from traveling from the deck to the cargo tanks was by improperly fitting flame screens. The crew of the JUPITER should have, in the exercise of ordinary care, closed the ullage caps prior to the passage of the BUFFALO.

12. JUPITER is negligent in failing to use its closed-gauging system.

This Court has held that the JUPITER was negligent in failing to close its ullage caps during a passage situation. This holding depended, in part, on a finding that the flame screens were ill-fitted. This created a situation where the only way to prevent the passage of flame from the deck to the cargo tanks was to close the ullage caps.

Appendix C

The testimony indicates that the JUPITER was capable of operating under both an open or a closed gauge system. (Grammenos, Vol. III, p. 7; Joeckel, Tr. Vol. XXVIII, p. 124). The Code of Federal Regulations provides that a tank vessel such as the JUPITER may gauge unleaded gasoline by means of an open gauge system. (46 C.F.R. § 35.30-10; Polgar, Vol. X, pp. 73-75)

The issue in the present case is not whether the JUPITER properly discharged her cargo; the issue is whether she properly prepared for the passage of the BUFFALO. By failing to close her ullage caps during a *passage situation*, this Court holds that the crew of the JUPITER was negligent. This Court, however, does not find that the JUPITER was negligent in failing to use the closed, as opposed to the open, gauge system of discharging her cargo.

13. JUPITER is negligent in failing to equip the vessel with an inert gas system.

The guidelines of the United States Coast Guard, the American Petroleum Institute and international regulations do not require an inert gas system on tank vessels below 20,000 tons dead weight (the JUPITER weighed eight tons) (Grammenos, Tr. Vol. III, p. 20; Joeckel, Tr. Vol. XXVII, p. 129). There is no requirement that a tanker the size of the JUPITER be equipped with an inert gas system today. (Riley, Tr. Vol. XIX, pp. 144-145).

Grammenos explained that international studies have shown that on smaller tankers, such as the JUPITER, there is "no need to have an inert gas system because the explosion capabilities during various electric currents or static electricity," simply do not occur on small tankers. As a result of these studies,

Cleveland Tankers did not give further consideration to equipping the JUPITER with an inert gas system. (Grammenos, Tr. Vol. III, p. 20).

While Riley testified that an inert gas system would have prevented the deck fire from propagating into the cargo space, (Riley, Tr. Vol. XIX, p. 125), he likewise testified that simply closing the ullage caps would have prevented the fire from spreading into the cargo space. (*Id.*). The evidence presented does not establish that the JUPITER was unreasonable in failing to equip the ship with an inert gas system.

b. Privity and Knowledge

The Court has found that the crew of the JUPITER was negligent, and that the JUPITER was unseaworthy, in the following ways: (1) The JUPITER was rendered unseaworthy by her ill-fitting flame screens; and (2) the crew of the JUPITER was negligent in failing to close the ullage caps prior to a passage situation. In order for Cleveland Tankers to limit its liability, it must establish that the above-acts occurred without their privity and/or knowledge. *Coryell v. Phipps*, 317 U.S. 406, 409, 63 S.Ct. 291, 292, 87 L.Ed. 363 (1943). In this case the Court finds that Cleveland Tankers has not met its burden of proving lack of privity and knowledge.

1. Ill-fitting flame Screens

Cleveland Tankers' management inspected the flame screens from time to time, but failed to observe the critical defect. (Grammenos, Tr. Vol. III, p. 22). Where, as here, the shipowner is a corporation, the privity or knowledge of a managing officer or agent of the corporation may be imputed to

the corporate owner thereby preventing limitation of liability. *Craig v. Continental Insurance Co.*, 141 U.S. 638, 12 S.Ct. 97, 35 L.Ed. 886 (1891); *Continental Oil Company v. Bonanza Corp.*, 706 F.2d 1365 (5th Cir. 1983); *Petition of J.E. Brenneman Co.*, 322 F.2d 846 (3rd Cir. 1963).

In this respect, corporate shipowners are held liable for the acts or knowledge of managing officers or supervisory employees. *Coryell v. Phipps*, 317 U.S. 406, 410-412, 63 S.Ct. 292, 293-94, 87 L.Ed. 363 (1943); *Avera v. Florida Towing Corp.*, 322 F.2d 155 (5th Cir. 1963); *In re Black Sea Steamship Company*, 382 F. Supp. 907, 911 (D.C. Canal Zone 1974). The question with regard to corporate owners is not what the corporation's officers and managers actually knew, but what they objectively ought to have known. *Complaint of Patton-Tully Transportation Co.*, 797 F.2d 206, 211 (5th Cir. 1986).

Privity and knowledge are deemed to exist when the owner had the means of knowledge, or, as otherwise stated, where knowledge should have been obtained from a reasonable inspection. *Hercules*, 768 F.2d at 1577. This Court holds that the defect in the flame screens on board the JUPITER, as designed and installed, was of a type easily ascertainable by a prudent shipowner's visual inspection. (Warren, Tr. Vol. VIII, p. 14, Vol. IX p. 19). The fact that a gap existed between the edge of the flame screens and the inside of the ullage pipes was readily evidenced by the crewmembers' ability to slide measuring tapes in between the flame screens and the ullage pipes. This Court finds that claimants have shown that Cleveland Tankers' failure to observe the defect in the flame screens constitutes an act of privity on the part of Cleveland Tankers. Cleveland Tankers has failed to show that this failure did not constitute an act of privity. Accordingly, Cleveland Tankers shall not be entitled to limit their liability.

Appendix C

2. Failure to Close the Ullage Caps

This Court likewise holds that the crew's practice of leaving the ullage caps open during a passage situation constitutes negligence because the flame screens on board the JUPITER were ill-fitted. The condition of the flame screens was apparent, or should have been apparent, to Cleveland Tankers' management.

The President of Cleveland Tankers, John Joeckel, testified that the ullage caps were not closed in a passage situation because fire was an unforeseeable event. (Joeckel, Tr. Vol. XXIX, p. 37). This Court has held that Cleveland Tankers was unreasonable in failing to foresee that fire might result if a ship, containing 56,000 barrels of unleaded gasoline, were involved in a passage situation. This failure to appreciate the risk of fire constitutes an act of privity on the part of Cleveland Tankers.

Joeckel testified:

> Q. And the only way that you can really seal a cargo space from a deck fire, where you have an ullage pipe, is to close the lid on the pet gauge over the top of the ullage pipe, correct?
>
> A. Well, to make it absolutely 100 percent sure of that, that is correct.
>
> Q. The only way to protect a cargo space from a deck fire is to seal the ullage?
>
> A. Well, again, I must emphasize that the — it all depends on the magnitude of fire that you're talking about.

Q. Well, any time you have a fire on the deck of one of your ships, you want to have the ullage pipes closed, don't you?

A. To be 100 percent sure, correct.

Q. Isn't it true, sir, that the magnitude of the risk created by the possibility of a ship catching on fire and blowing up the way the JUPITER did means that you have to take the 100 percent certainty in order to be reasonably safe?

A. No, because the flame screen, itself, will protect the cargo tank.

Q. But only from a spark, correct?

A. No, I think I said a spark and/or fire for a short time.

(Joeckel, Tr. Vol. XXIX, p. 9)

This Court holds that the President of Cleveland Tankers was unreasonable in relying on ill-fitted flame screens to stop the spread of a deck fire to the cargo tanks on board the JUPITER. This Court further holds that the failure to require the closing of the ullage caps during a passage situation constitutes an act of privity on the part of the management Cleveland Tankers, Inc. Accordingly, Cleveland Tankers shall not be entitled to limit its liability to the value of the JUPITER.

Appendix C

3. TOTAL PETROLEUM, INC.

As set forth above, Total Petroleum, Inc. (hereinafter "Total") is a party to this proceeding as (1) a property damage claimant; (2) a personal injury defendant with respect to claimants Abdul Mussa, Asud Mohamed, Charles Prescott and Kaid Shajrah; (3) a third-party defendant in the Cleveland Tankers, Inc. limitation action; (4) a cross-defendant in American Steamship Company's claim for contribution; and (5) a counter-plaintiff/cross-plaintiff seeking contribution against Cleveland Tankers, Inc. and American Steamship Company in both limitation actions.

As a wharfinger, Total is required to "provide [a dock] which reasonably and adequately meets its intended purpose." *Amerada Hess Corp. v. M/T MARIAM*, 533 F. Supp. 158, 167 (S.D. Ca. 1982). Total's obligation was to exercise reasonable care under the circumstances:

> It is well settled that a wharfinger is not the guarantor of the safety of a ship coming to his wharf. He is, however, under a duty to exercise reasonable diligence to furnish a safe berth and to avoid damage to the vessel. This includes the duty to ascertain the condition of the berth, to make it safe or warn the ship of any hidden hazard or deficiency known to the wharfinger or which, in the exercise of reasonable care and inspection, should be known to him and not reasonably known to the shipowner.

Trade Banner Line, Inc. v. Caribbean Steamship Co., S.A. 521

F.2d 229, 230 (5th Cir. 1975); *see also United States v. Mowbray's Floating Equip.*, 601 F.2d 645, 646 (2nd Cir. 1979).

Thus, the law provides that Total had a duty to exercise reasonable diligence in furnishing the JUPITER with a safe berth. Total could satisfy this duty either by actually making the berth safe or by warning the JUPITER of any hidden hazard or deficiency reasonably known by Total. If Total could reasonably have discovered a latent defect existing within the berth, Total owed a duty either to correct that latent defect or to warn of its presence.

1. Condition of the No. 4 king post.

Total argues (1) the condition of the No. 4 king post on September 16,1990 did not make the Total dock unsafe; (2) the latent internal condition of the No. 4 king post was not discoverable in the exercise of reasonable care; and (3) the condition of the No. 4 king post was not a proximate cause of the breakaway and subsequent fire and explosion on board the JUPITER.

Upon visual examination, the No. 4 king pile showed no outward signs of rotting. (Stender Tr. Vol. XXII, p. 125; Sgt. Terlecki, Tr Vol. XIX, p. 35). Thus, this Court finds that the dry rot condition within the No. 4 king pile was a latent, or hidden, condition. The first issue then becomes whether the internal condition of the No. 4 king post should have been discovered by Total in the exercise of reasonable care. If it was, Total had a duty to correct the defect, or to warn the JUPITER of the danger.

The evidence presented at trial shows the following. The broken No. 4 king pile appeared to be decayed at the time it was

first observed at the accident site by investigators. (Sgt. Terlecki, Tr. Vol. XIX, pp. 9, 20, 22, 23). One of those investigators, when handling the post at the time of trial, noted that dry-rot was evident in several portions of the wood. (Sgt. Terlecki, Tr. Vol. XIX, pp. 35,36,44). Photo enhancements of the king pile in question revealed that it was 90% to 95% decayed at the time the photographs were taken. (Shorthouse, Tr. Vol. XXIII, p. 82; Vol. XXIV, pp. 60-66, 81, 97).

It is undisputed that Total had a duty to operate and maintain the mooring posts in a safe working condition. (Garner Tr. Vol. XXI, p. 43). Total relied on an informal arrangement with William Stender, an independent marine contractor, to inspect the facility each spring. (Buchalski, Tr. Vol. XVI, pp. 128-130; Stender, Tr. Vol. XXII, pp. 55-56). Several months before the incident, Stender inspected the facility including the pilings, clusters, and kingpins. (Stender, Tr. Vol. XXII, p. 58). Stender conducted a visual examination of the dock and clusters for signs of deterioration, mold and the like. He also probed each piling in each cluster with a small pocket knife to test the condition of the wood. The knife test was supposed to determine whether the wood was rotten and needed to be replaced. (Stender, Tr. Vol. XXII, pp. 59-61). Had Stender's test revealed that the wood was rotting, he would have recommended that it be replaced. (Stender, Tr. Vol. XXII, p. 66). Stender incorrectly believed that a visual inspection of the pilings, along with the knife probe, was an effective way to determine their condition. (Stender, Tr. Vol. XXII, p. 119).

Stender testified that he usually prodded each post only one time, after which "you can tell" if the wood was rotting. (Stender, Tr. Vol. XXII, p. 61). However, at trial, Stender admitted that, had he struck the two-inch blade of his knife into Exhibit 227c,

a piece of indisputably rotting wood from king post No. 4, he would not have discovered the level of dry-rot that existed. (Stender, Tr. Vol. XXII, p. 64). Stender testified that the outer shell of king post No. 4 was solid in certain spots, and if prodded in the solid spot, would "pass" the knife test. (Stender, Tr. Vol. XXII, pp. 62-66). Thus, a single prod of the knife could easily fail to detect a rotting post which should be replaced, such as king pile No. 4.

David Porter, an expert in the area of marine structures testified that probing the posts with a pocket knife is not adequate for determining the degree of rot within the post. Porter testified as follows:

> Q. Do you have an opinion, sir based on your expertise, as to whether or not that constituted a reasonable method of ascertaining the degree of rot or integrity of the post?
>
> * * *
>
> A. You're asking specifically the adequacy of taking a pocket knife and probing a pile to determine its — its overall structural capability. The answer is it is not adequate
>
> Q. And why do you say that, sir?
>
> A. Because it may not give you information, depending on the size of the

> pocket knife and the depth of penetration, as to what the interior condition of the timber is.

(Tr. Vol. VI, pp. 48-49)

Leonard Van Houten, tendered by Total as an expert on the subject of marine structures, when asked about the adequacy of the pocketknife probing, testified, "I believe it is reasonable. It certainly is common." (Van Houten, Tr. Vol. XXVI, p. 68). However, Van Houten further testified that the two inch pen knife would fail to detect deterioration on the interior of a post such as was present on the failed king pile. He testified as follows:

> Q. Okay. How would Mr. Stender know about the presence of the deterioration which is approximately four inches from the — or the exterior of exhibit 227c with his pen knife?
>
> A. Okay, obviously, he won't.

(Tr. Vol. XXVI, p. 88). Van Houten also testified that exhibit 227c, a sample of king pile No. 4, had rotted, and that he would not recommend mooring an oil tanker to it. (Van Houten, Tr. Vol. XXVI, pp. 89-90).

It is clear that the pen knife test and mere visual inspections failed to discover that the post was 90-95% rotted, and was unsafe to use as a mooring post. This Court finds that Total's efforts, made through Stender's inspections, to detect defects in the posts were inadequate and constituted an unreasonable means of discovering the degree of rot in the piles.

Appendix C

David Porter further testified:

Q. Sir, do you have an opinion as to what a reasonable technique would have been to promote proper maintenance of this post?

A. Yes.

Q. And what is that opinion, sir?

A. We're talking the specifics of the post, but piles whose end grains are subject to freshwater intrusion, which this pile's end grain was, and therefore subject to the possibility of fungal attack — dry rot, if you will — it would be appropriate to take a core sample into the heart of the piling to determine texture of the interior wood — the condition of the interior wood.

Q. How do you do that, sir?

A. One can use a coring device. They have what they call increment cores, small bore cores that can be used. The particular technique that our firm uses is a larger diameter core device. It's about five-eighths of an inch in diameter.

Q. Explain to Judge Duggan exactly how this technique works, if you would, please.

Appendix C

A. Utilizing either a hand-held increment core — or, in the case of our firm, we use a pneumatic drill — you take a core sample right into the center of the — of the timber.

Q. Will that core sampling technique disclose the existence of dry rot, sir?

A. Yes.

(Porter, Tr. Vol. VI, pp. 50-51).

While this Court does not conclude that the taking of core samples is the only reasonable method of inspection, this Court does conclude that the single pricking of king pile No. 4 with a 2-inch knife blade by Stender was an unreasonable method of inspecting the post. This Court is satisfied that the claimants and American Steamship have established that the pen knife test and visual inspections constituted ineffective and unreasonable methods of maintaining a reasonably safe berthing condition for the JUPITER and other ships which called at the Total facility.

Total claims to have delegated all responsibility for discovering and remedying dock problems to Mr. Stender. (Buchalski, Tr. Vol. XVI, pp. 202-204; Garner, Tr. Vol. XXI, pp 66-67). Stender, however, is an independent contractor with no formal agreement to inspect the dock. Stender's testimony at trial was as follows:

Q. And so, it's a fair statement then, that you were acting as an independent contractor for Total, on their maintenance?

A. Yes.

Q. Now, did you — did you understand that you were the only person who was inspecting this dock, or did you have an understanding that Total also would periodically inspect this dock for deficiencies?

A. Total and myself, yes.

Q. Okay, so at no time, while you were working there, did you have an understanding that you were the only person who was responsible for inspecting this facility?

A. No.

(Tr. Vol. XXII, p. 56). Thus, Stender did not believe that all responsibility for maintenance and inspection of Total's facility had been delegated to him. No formal agreements had been established, and Stender was merely an independent contractor. He never agreed to be responsible for all of Total's inspection and maintenance obligations, and in fact, he believed that Total actually did perform some inspection and maintenance of its own. (Stender, Tr. Vol. XXII, p. 56).

This Court finds that Total did not properly delegate its responsibility to inspect and maintain its dock and mooring pile clusters. Mr. Stender's failure to use reasonable means to inspect the piles thus conferred a duty upon Total to properly examine and maintain the dock through other means.

Appendix C

Total admits that at no time did anyone from the company directly perform inspection or maintenance on the dock. (Garner, Tr. Vol. XXI, pp. 66-67). Though Total's own expert recommends a formal program of inspection and maintenance of the marine structures, or at least keeping an inspection manual on the premises, Total did neither. (Van Houten, Tr. Vol. XXVI, pp. 82-83).

In arguing that the dock and pilings were properly inspected, Total relies on "inspections" performed by terminal personnel before and during arrivals of vessels, as well as annual Coast Guard inspections. These inspections, however, were limited to visual examinations. (Garner, Tr. Vol. XXI, pp. 23, 63). As previously stated, a visual inspection is an ineffective and unreasonable test of the soundness of the posts. Total had a duty to conduct an effective and reasonable examination to determine the safety of the mooring piles. Such a test was never conducted.

Total relies on Stender's application of creosote "a couple of years before the accident" as evidence of the proper maintenance of the pilings. (Stender, Tr. Vol. XXII, p. 53). However, the king piles were never "unwrapped" to check for cracks, or to apply creosote under the wrappings. (Stender, Tr. Vol. XXII, p. 76). Creosote was only applied to the exposed areas of the king pile. According to Total's expert witness, Mr. Van Houten, creosote should be used to prevent penetration of water into any cracks of the wood, such as the crack found in king pile No. 4. (exhibit 227b) (Van Houten, Tr. Vol. XXVI, p. 110). Because the cracked portion of the No. 4 kingpile was located under the wrappings, creosote was never applied to that part of the king pile. Thus, an entrance for water which was likely to cause rot in the interior of the post, such as that evident in king post No. 4, was left open.

This Court holds that Total's duty to maintain the pilings

was not properly discharged by the incomplete and ineffective application of creosote some unknown years before the accident.

Total admits that it had a duty to inspect the dock and to maintain it in a safe condition. However, it claims to have delegated this duty through an informal arrangement with Stender. Stender, however, did not agree to accept Total's obligation, and thus, Total did not properly discharge its duty. Stender did nothing more than visually inspect the dock and its moorings, and test each post with a single prod of his small pocket knife. The evidence establishes that such tests are ineffective and unreasonable for detecting the strength and safety of a potentially rotted mooring post. Based on the record, this Court holds that Total was negligent in relying on the unreasonably ineffective tests of Stender. In sum, the evidence shows that Total was unreasonable in relying on inadequate methods for discovering the dry-rot condition within the No. 4 king pile.

This Court further finds that the dry-rot condition within the No. 4 king pile was a proximate cause of the accident. David Porter testified that the "deterioration, specifically of the king pile associated with Dolphin Number 4 which was used to moor at least two of the vessel's mooring lines — that its failure allowed the vessel to break free and rotate or contributed to the vessel's ability to rotate out into the channel which eventually then created stress on the product transfer hose which apparently it was unable to handle and eventually led to the incident." (Porter, Tr. Vol. VI, pp. 20-21). Mr. Porter concluded that the deterioration of the wood was a "significant contributor" to the post's failure under strain (Porter, Tr. Vol. VI, pp. 12-13). He testified that "the force was adequate to cripple the remaining capacity of the timber" (Porter, Tr. Vol. VI, p. 138). This Court finds Porter's conclusion persuasive.

Appendix C

Total claims that the king pile was "shock loaded" and that even a sound white oak pile would have snapped under the same conditions but offers no persuasive evidence to that effect. (*See* Total's Post-Trial Response to allegations of American Steamship, pp. 14-21, 18). Total argues, based on the testimony of Parker Hay and Professor Troesch, that the actual force imposed upon the No. 4 king post was somewhere "between two to six times the static load of 23,000 pounds, or between 46,000 and 161,000 pounds." (Total's Post-Trial Response, at 18). Total argues that even a sound white oak piling would have failed under the level of force actually imposed on the No. 4 king pile at the time it snapped, and, therefore, the deteriorated condition of the No. 4 king pile was not a proximate cause of the accident. *Id.* The evidence offered at trial does not adequately support Total's argument.

None of the evidence presented at trial establishes at what point (assuming the piling was shock loaded) in the range of 46,000 to 161,000 pounds the No. 4 king pile actually failed. Professor Robert Beck testified that a sound white oak piling could resist a low of between 70,000 and 80,000 pounds and a high of 145,000 pounds, depending on the location of the lines on the king pile. (Beck, Tr. Vol. XX, p. 16). Because a sound white oak piling could have resisted a substantial amount of force within the range of 46,000 to 161,000 pounds, it is this Court's conclusion that a sound white oak pile would have withstood the force to which the No. 4 king pile was subjected.

Total relies on the following testimony of Van Houten, who concluded that a "sound" king pile would not have prevented the accident:

> Q. Now, did you come to an opinion as to whether, for want of a better word a

> sound king — Number 4 king pile, the one without the — the condition as — as it's been described by witnesses, would have prevented the movement of the JUPITER and ultimately the rupture of the cargo line?
>
> MR. EMERY: Calls for speculation.
>
> THE COURT: Overruled.
>
> THE WITNESS: Nobody can be sure because of the — of the sequence of events, but if everything else occurred and Number 4 line still stayed attached, the forces were apparently so great that it would have pushed JUPITER to the west to a great enough extent to break the — the hose, and let — let me say in my thinking, the breakage of the hose is the real accident.

(Van Houten, Tr. Vol. XXVI, p. 70). Van Houten's testimony does not show that a sound oak piling would have likewise failed under the circumstances facing the dry-rotted oak piling. Rather, Van Houten simply assumed that, even if the No. 4 king pile had not snapped, the cargo hose would have broken anyway. Van Houten's statement constitutes speculation[9] and does not persuade this Court on the issue of proximate cause.

---

9. Although the Court overruled the objection based on "speculation" and allowed the witness to answer, the Court having heard the answer, is satisfied that the opinion given by the witness is totally unpersuasive.

Appendix C

This Court is satisfied, by a preponderance of the evidence, that the deteriorated condition of the No. 4 king pile was a proximate cause of the accident which occurred. Accordingly, this Court finds that Total's unreasonable failure to discover the dry-rot condition of the No. 4 king pile was a proximate cause of the incident which occurred on September 16, 1990. This Court finds that Total breached a duty owed to Cleveland Tankers, Inc. to provide a reasonably safe berth, and, this breach being a proximate cause of the incident which occurred, such breach constituted negligence on the part of Total Petroleum, Inc.

2. Whether berth was otherwise unsafe.

a. Dock Design and Location.

The evidence otherwise shows that Total provided a safe berth for the JUPITER. Van Houten conducted an analysis of the Total dock and mooring facilities as well as the mooring facilities (winches) on board the JUPITER. (Van Houten, Tr. Vol. XXVI, pp. 22-39). Van Houten concluded that the mooring arrangement, as it existed on September 16, 1990, provided a reasonably safe berth for the JUPITER:

> Q. Okay. Okay. Let — let me start out asking you this: based upon all of the work you've done in this case and reviewing the hydrodynamic report of Dr. Newman and doing the depositions and the like and your work on the mooring arrangement, do you have an opinion as to whether the Total dock on September 16, 1990, provided a reasonably safe berth for the JUPITER?

A. Yes, I — I believe it was reasonably safe.

Q. Okay. Now, there's been some talk about the issue of the adequacy of the bow and stern polypropylene lines and the direction of lead. Do you — do you include that existing arrangement in your opinion?

A. Well, it's — I include the — the totality of the — of the system as it provided, but let me say that in my opinion, the polypropylene lines could have been left off, and I think you're alluding to whether it needed a so-called bow line or stern line, and the answer is flat-out they are not necessary for any large vessel and in fact are — have pretty much been dropped in standard practice for tank vessels.

* * *

Q. How about the fact that the — that the distance between the number 1 and 4 mooring clusters — that distance is less than the distance between the bow and the stern? Would you —

A. It — it is not a critical element because — particularly with the JUPITER because the after breast line is so far forward.

> I'll go back to what we talked about earlier. Your breast lines ideally should be perpendicular to the longitudinal axis of the ship. That is the best place to put them. In practice, we don't always accomplish that because we have to accommodate a range of vessels and there — different vessels have their own mooring system arrangement, but for the JUPITER, it would do no good to put Number 4 further aft. In fact, it would make it a weaker mooring.

(Van Houten, Tr. Vol. XXVI, pp. 64-66). As discussed in connection with the allegations of negligence against the JUPITER, Van Houten further opined that the Total dock was not constructed "too close" to the navigable channel. (Van Houton, Tr. Vol. XXVI, p. 67). David Porter agreed, on cross examination, that the location of the dock did not create an "inherently unsafe" mooring facility. (Porter, Tr. Vol. VI, pp. 73-74; 76-77).

Thus, this Court finds that Total provided the JUPITER with a reasonably safe mooring facility. Accordingly, this Court likewise rejects American Steamship's claims that Total negligently redesigned and rebuilt their dock in 1986. (ASC's claims against CTI and Total, claims 14, 15, 18).

b. Automatic Shutoff for Motor Operated Valve, Check Valves, and Quick Disconnect Coupling.

American Steamship contends that Total was negligent in failing to design the dock with automatic shutoff for the motor

operated valve, failing to provide a "kill switch" for the motor operated valve, failing to provide check valves in the pipeline and failing to incorporate quick disconnect coupling technology. The claims regarding the motor operated valve and the quick disconnect coupling were rejected by this Court in connection with the allegations of negligence against Cleveland Tankers. This Court finds that American Steamship has not established that the failure on the part of Total to close the motor-operated valve was a cause of the accident which occurred.

This Court further finds that American Steamship did not establish that a failure on the part of Total to equip the JUPITER with "quick disconnect coupling" was unreasonable under the circumstances. (*See* this Court's discussion of claims against the JUPITER, *supra*).

With respect to the check valves, American Steamship has offered no testimony, and has cited no statute, rule or regulation which requires the Total facility to have check valves in its pipeline. Furthermore, American Steamship has not established that such valves would have prevented the accident from occurring. The testimony indicates that had such valves been operable on the day in question, nothing which occurred at the end of the dock would have caused such valves to activate. (Newman, Tr. Vol. XVII, p. 24; Garner, Tr. Vol. XXI, pp. 11-12).

3. Duty to Warn the JUPITER of the possibility of a breakaway.

American Steamship claims that Total had a duty to warn the JUPITER about the possibility of breakaways from its facility as occurred with the CHEMICAL TRANSPORT in 1984. Captain Beckwith testified that Total's dock was the same as other Great

Lakes docks and that he had no complaints about the dock. (Beckwith, Tr. Vol. XV, pp. 174, 175, 241, 242).

Beckwith testified that surging is a recognized hazard at terminals in confined waters and that he did not need any warnings about the risk of breakaway or the need to shut down when ships passed. (Beckwith, Tr. Vol. XV, pp. 236, 237; Beckwith, Tr. Vol. XVI, p. 109). Furthermore, Beckwith testified that he would not have done anything differently if prior surging incidents had been brought to his attention: "it would not have changed anything." (Beckwith, Tr. Vol. XVI, p. 110). A wharfinger's duty to warn applies only to any *hidden* hazard or deficiency not reasonably known to the shipowner. A wharfinger does not have a duty to warn of those dangers which are open and obvious. *Bunge Corp. v. M/V Furness Bridge*, 558 F.2d 790 (5th Cir. 1977), *cert. denied*. 435 U.S. 924, 98 S.Ct. 1488, 55 L.Ed.2d 518 (1978). Accordingly, this Court declines to hold that a failure to warn the JUPITER of prior surging incidents or of the possibility of breakaway constitutes negligence on the part of Total.

4. Failure to require employees of Total Petroleum to maintain a radio watch to listen for vessels which may pass the moored tankers and failure to provide firefighting equipment in the event of a vessel fire to the JUPITER.

American Steamship faults Total for not requiring its employees to maintain a radio watch to listen for vessels which may pass moored tankers. American Steamship has not established that, had a radio watch been maintained, the crew on board the JUPITER would have reacted differently to the situation had they earlier learned that the BUFFALO was

approaching. Accordingly, this Court declines to hold that this act constituted negligence on Total's part.

As to the failure to provide firefighting equipment or other emergency procedure in the event of a vessel fire, this Court first holds that American Steamship has not established a duty on the part of Total to so provide. Furthermore, American Steamship failed to plead these allegations in its cross-claims or pre-trial statement. During Professor Shorthouse's examination, when American Steamship attempted to offer evidence in support of these allegations, Total objected and this Court sustained the objection. (Shorthouse, Tr. Vol. XXIV, pp. 57-58).

5. Failure to use Concrete or Steel Pilings.

American Steamship claims that it would have been more prudent for Total to use concrete or steel pilings rather than white oak pilings. Porter testified, however, that concrete and steel are also subject to forms of deterioration. (Porter, Tr. Vol. VI, p. 59). Thus, it was not established that Total was unreasonable in failing to use concrete or steel as opposed to white oak pilings.

In conclusion, this Court holds that Total was negligent in failing to discover the dry-rot condition within the No. 4 king pile and that such negligence was a proximate cause of the accident.

III. APPORTIONMENT OF FAULT

This Court has concluded that American Steamship Company, as owner of the BUFFALO, shall not be entitled to limit their liability with respect to the claimants' damages. Furthermore, Cleveland Tankers, Inc., as owner of the JUPITER, shall not be entitled to limit their liability with respect to the

claimants' damages. Finally, this Court has concluded that Total Petroleum, Inc. was negligent in failing to discover the dry-rot within the No. 4 king post.

Admiralty law requires this Court to apportion damages among and between the parties found at fault based upon principles of comparative fault. *United States v. Reliable Transfer Co.*, 421 U.S. 397, 95 S.Ct. 1708, 44 L.Ed.2d 251 (1975). This Court finds that, because the BUFFALO passed the JUPITER both dangerously fast and dangerously close, hence instigating the entire chain of events, primary fault shall rest with the BUFFALO. *See Creole Shipping Ltd. v. Diamandis Pateras Ltd.*, 410 F. Supp. 313 (S.D. Ala. 1976), *aff'd.* 554 F.2d 1348 (5th Cir. 1977) (moving vessel 66-2/3% at fault, moored vessel 33-1/3% at fault for slack lines). This Court finds the conduct of the BUFFALO much more egregious than that of the JUPITER or Total Petroleum, Inc. This Court holds that the BUFFALO was 50% at fault, while the JUPITER and Total Petroleum, Inc. were each 25% at fault.

A judgment as to liability only, consistent with this Opinion, shall issue forthwith.

DATED: JUN 09 1993

s/ PATRICK J. DUGGAN
PATRICK J. DUGGAN
UNITED STATES DISTRICT JUDGE

Appendix C

Pursuant to Rule 77(c), Fed.R.Civ.P.
copies mailed this date to:
John L. Foster, Esq.
Thomas W. Emery, Esq.
Donald J. Miller, Esq.
Richard J. McClear, Esq.
Dennis O'Bryan, Esq.
C. Peter Theut, Esq.
Warren J. Marwedel, Esq.
William C. Schaefer, Esq.
Leonard C. Jaques, Esq.
Merritt W. Green, II, Esq.
Timothy Buck, Esq.
Brian J. Miles, Esq.

Appendix C

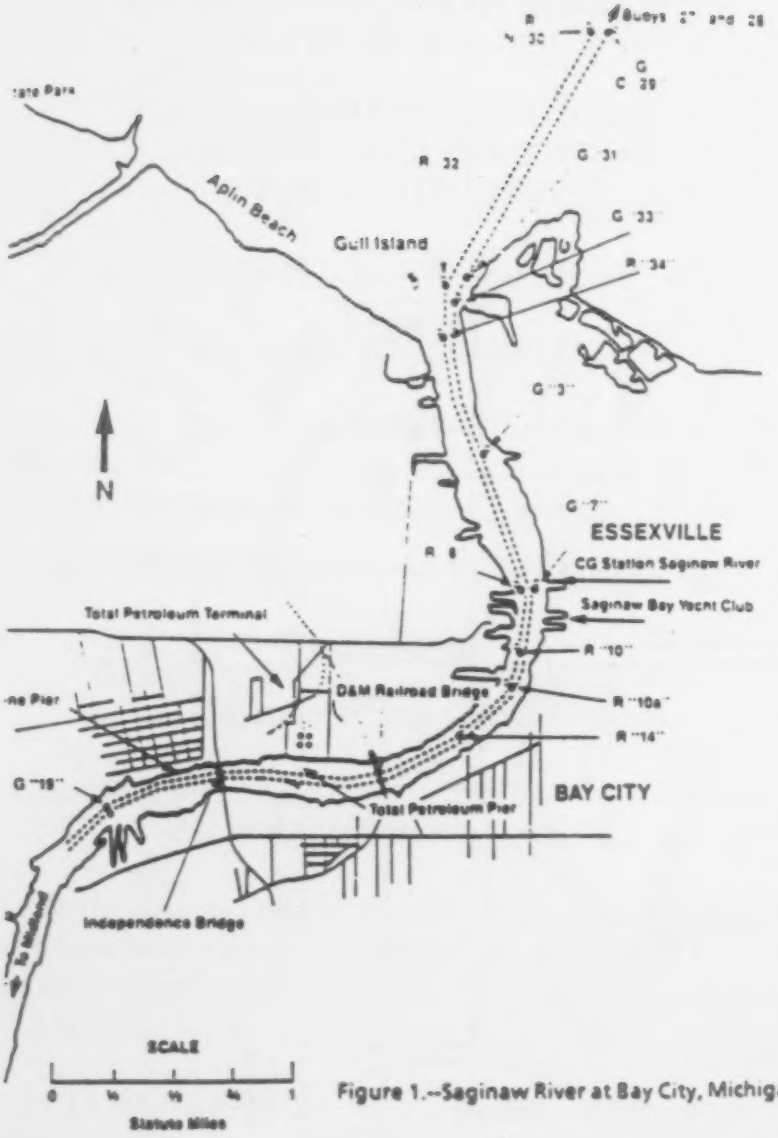


Figure 1.--Saginaw River at Bay City, Michigan.

BEST AVAILABLE COPY

Appendix C

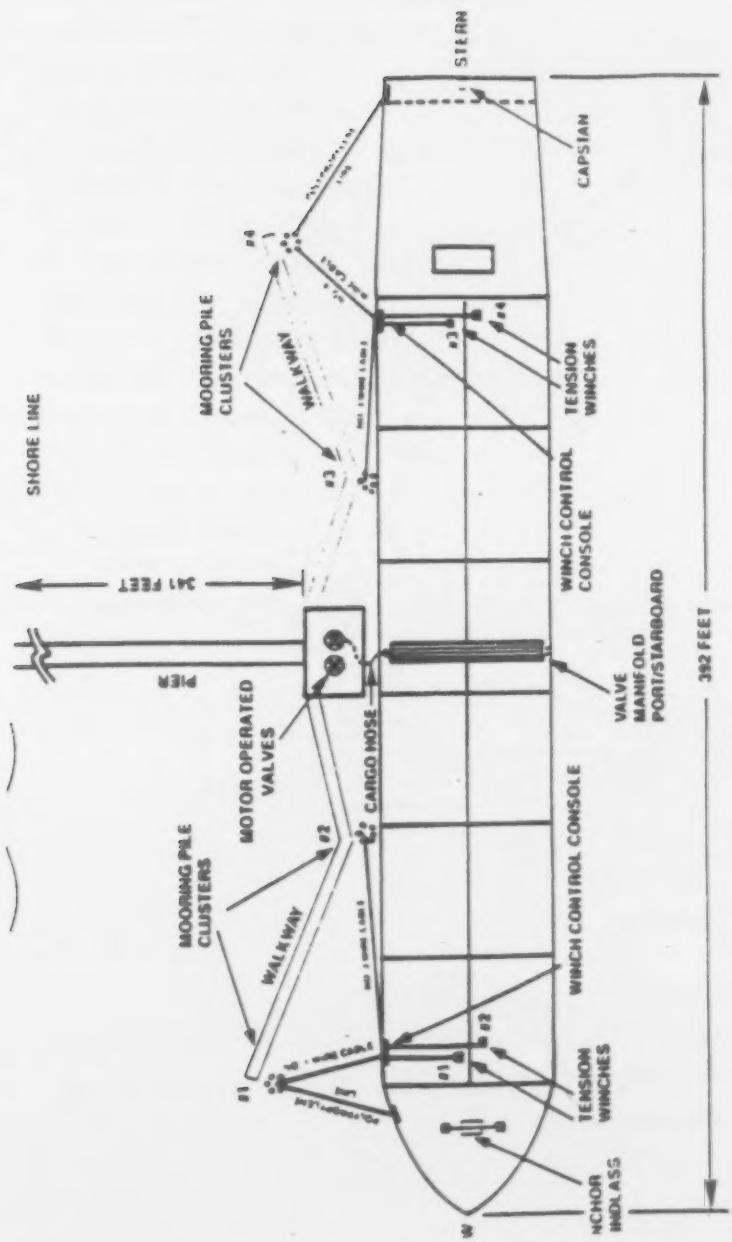


Figure 2 - JUPITER's mooring arrangement

BEST AVAILABLE COPY

APPENDIX D — JUDGMENT OF THE UNITED STATES DISTRICT COURT FOR THE EASTERN DISTRICT OF MICHIGAN, SOUTHERN DIVISION DATED JUNE 9, 1993

UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF MICHIGAN
SOUTHERN DIVISION

CASE NO.: 91-CV-70661-DT

HON. PATRICK J. DUGGAN

IN THE MATTER OF THE PETITION OF CLEVELAND TANKERS, INC., as Owner and Operator of the M/V JUPITER for Exoneration From or Limitation of Liability

JUDGMENT AS TO LIABILITY, ONLY

At a session of said Court, held in the U.S. District Courthouse, City of Detroit, County of Wayne, State of Michigan on JUN 09 1993

PRESENT: THE HONORABLE PATRICK J. DUGGAN
U.S. DISTRICT COURT JUDGE

For the reasons set forth in an Opinion issued this date, the Court does hereby enter JUDGMENT on the issue of liability, only, with respect to the occurrence which is the subject matter of this lawsuit.

IT IS ORDERED that American Steamship Company is hereby determined to be 50% at fault for such occurrence.

IT IS FURTHER ORDERED that Cleveland Tankers, Inc. is hereby determined to be 25% at fault for such occurrence, and

IT IS FURTHER ORDERED that Total Petroleum, Inc. is hereby determined to be 25% at fault for such occurrence.

IT IS FURTHER ORDERED that neither American Steamship Company nor Cleveland Tankers, Inc. shall be entitled to exoneration from or limitation of liability.

DATED JUN 09 1993

s/ Patrick J. Duggan
PATRICK J. DUGGAN
UNITED STATES DISTRICT JUDGE

Pursuant to Rule 77(c), Fed.R.Civ.P.
copies mailed this date to:
John L. Foster, Esq.
Thomas W. Emery, Esq.
Donald J. Miller, Esq.
Richard J. McClear, Esq.
Dennis O'Bryan, Esq.
C. Peter Theut, Esq.
Warren J. Marwedel, Esq.
William C. Schaefer, Esq.
Leonard C. Jaques Esq.
Merritt W. Green, II, Esq.
Timothy Buck, Esq.
Brian J. Miles, Esq.

APPENDIX E — OPINION AND ORDER OF THE UNITED STATES DISTRICT COURT FOR THE EASTERN DISTRICT OF MICHIGAN, SOUTHERN DIVISION DATED DECEMBER 10, 1992

UNITED STATES DISTRICT COURT,
E.D. MICHIGAN, S.D.

Nos. 91-CV-70661-DT, 91-CV-72146-DT, 90-CV-72804-DT, 90-CV-73803-DT and 90-CV-73804-DT.

Dec. 10, 1992.

Matter of the Petition of CLEVELAND TANKERS, INC., as Owner and Operator of the M/V "JUPITER," for Exoneration From or Limitation of Liability.

OPINION AND ORDER DENYING ADMISSIBILITY OF THE CONCLUSIONS CONTAINED IN THE NTSB AND THE USCG REPORTS

DUGGAN, District Judge.

The issue before the Court is whether the conclusions contained in the National Transportation Safety Board Reports and those contained in the U.S. Coast Guard report are admissible. Total Petroleum and Cleveland Tankers agree that the factual portions of those reports are admissible; however, they contend that the opinions and legal conclusions contained therein are inadmissible. Claimants and American Steamship contend that the reports are admissible in their entirety.

NTSB Reports

49 U.S.C.App. § 1903(c) provides:

Appendix E

> No part of any report of the [National Transportation Safety] Board, relating to any accident or the investigation thereof, shall be admitted as evidence or used in any suit or action for damages growing out of any matter mentioned in such report or reports.

In Protectus Alpha Navigation Co., Ltd. v. North Pacific Grain Growers, Inc., 767 F.2d 1379 (9th Cir. 1985), a vessel owner brought an action against a grain terminal owner to recover damages arising out of loss of the vessel by fire after the terminal owner's dock foreman ordered the vessel to cast off. The district court excluded from evidence a report, including the factual findings, of the National Transportation Safety Board. The district court relied upon 49 U.S.C.App. § 1903(c), which provides that no part of any report of the NTSB shall be admitted as evidence in any action for damages growing out of any matter mentioned in such report. The Ninth Circuit held:

> Although strict application of the statute has been somewhat modified in recent cases . . . so as to permit some reports of staff investigators and other personnel into evidence, such reports, to the extent they express agency views or conclusions as to the probable cause of the accident, are excludable under the rule. The district court had before it all seven volumes of the transcript of the Coast Guard hearing on which the report in question was based, and the excluded report was merely another trier of fact's conclusion as to what transpired that fatal evening. We hold, therefore, that the

> exclusion of the report of the National Transportation Safety Board was not error.

Id. at 1385 (emphasis added) (citations omitted). Thus, while the Ninth Circuit did not find the district court errant in excluding the NTSB report in its entirety, the Ninth Circuit did note that the reports are inadmissible to the extent they express agency views or conclusions as to the probable cause of the accident.

In Curry v. Chevron, USA, 779 F.2d 272 (5th Cir. 1985), the lawsuit arose out of a crash of a helicopter that was transporting persons to and from various oil rigs located in the Gulf of Mexico. During the course of the trial, counsel for the plaintiffs attempted to have their expert witness testify that he had relied on the probable cause conclusions of the NTSB report in reaching his opinion about the cause of the crash. The report concluded that the probable cause of the crash was the failure of the main rotor blade. Id. at 274. While the district court allowed the plaintiffs' expert to base his own conclusions on data included in the report, the district court refused to allow the expert to use the report's opinions and conclusions. The Fifth Circuit Court of Appeals affirmed the district judge's decision, and noted that:

> Plaintiffs contend that under Fed.R.Evid. 703 the expert witness should have been allowed to testify that the NTSB report was one of the sources he relied on in reaching his opinion. But Congress has determined that these reports shall not be used as evidence at trial, and the judicial gloss on § 761(e), while allowing factual portions of the report to be admitted, forbids the use of any conclusory

> statements in the NTSB reports. Travelers Insurance Co. v. Riggs, 671 F.2d 810, 816 (4th Cir. 1982); American Airlines Inc. v. United States, 418 F.2d 180, 196 (5th Cir. 1969).

Id. at 274. The Court thus held that the conclusions contained in an NTSB probable cause report were inadmissible in the civil proceeding before the Court. See also Mullan v. Quickie Aircraft Corp., 797 F.2d 845 (10th Cir. 1986) (expert was properly allowed to testify where he relied only on factual portions of an NTSB report).

Therefore, recognizing this "judicial gloss" on 49 U.S.C.App. § 1903(c), the factual contents of the NTSB report are admissible into evidence; but any opinions or legal conclusions contained therein are not admissible.

USCG Reports

46 C.F.R. 4.07-1(b) (1990) provides:

> The investigations of marine casualties and accidents and the determinations made are for the purpose of taking appropriate measures for promoting safety of life and property at sea, and are not intended to fix civil or criminal responsibility.

In Huber v. United States, 838 F.2d 398 (9th Cir. 1988), the yacht KUHUSHAN sank in a storm off the coast of Marin County, north of San Francisco Bay. Two of the crew members drowned. The survivor and the decedents' representatives sued

the United States Coast Guard and Monterey Navigation Company, the owner of a ship involved in the incident, for negligence. After the KUHUSHAN sank, the Coast Guard conducted two investigations and issued public reports. The investigative reports summarized the circumstances of the sinking and also included the investigating officer's conclusions as to the cause of the accident and recommendations about ways to avoid problems in the future. The government objected to the admission into evidence of the reports' conclusions. A special magistrate held that the reports were admissible in their entirety under Federal Rule of Evidence 801(d)(2) as admissions of a party opponent, and the district court affirmed. Id. at 401. The Ninth Circuit reversed.

The Ninth Circuit cited 46 C.F.R. 4.07-1 and held that the United States Coast Guard investigating officers' conclusions and recommendations were inadmissible as evidence in the civil proceeding at issue. The court reasoned:

> The Coast Guard has also directed, consistent with its statutory mandate to promote marine safety, that reports of such investigations shall not be used as evidence to assign civil or criminal responsibility for accidents. The reason for this is obvious: were post accident investigation reports admissible evidence in a later civil proceeding for damages, the investigators might well be reluctant to be completely open and candid in the report, a result which could have adverse consequences for public safety.

Id. at 402.

Appendix E

The Ninth Circuit held:

> Thus, for the same reasons that Congress has prohibited use in private litigation of accident investigative reports prepared by the National Transportation Safety Board and other federal agencies, we hold that under 46 C.F.R. § 4.07-1(b), the Coast Guard investigating officers' conclusions and recommendations in the reports are inadmissible as evidence in this private litigation arising out of the accident that was the subject of the reports. That all or part of the reports might, in the absence of a statute or regulation such as this, be admissible under Fed.R.Evid. 801(d)(2) or some other rule is immaterial. Congress may impose limitations on the admissibility of evidence beyond those provided in the Federal Rules of Evidence.

Id. at 403. In accord with this holding, and for the same reasons expressed in the discussion of 49 U.S.C.App. § 1903(c), this Court concludes that any opinions or legal conclusions contained in the USCG reports should be excluded.

Beech Aircraft v. Rainey

American Steamship contends that Beech Aircraft v. Rainey, 488 U.S. 153, 109 S.Ct. 439, 102 L.Ed.2d 445 (1988), supports the proposition that the opinions and legal conclusions contained in the NTSB and USCG reports are admissible. This Court disagrees.

Appendix E

The Court in Beech Aircraft was not concerned with the admission of a United States Coast Guard or National Transportation Safety Board accident investigation report. Rather, the Court was faced with the question of the extent to which a Judge Advocate Generals ("JAG") Report was admissible in civil litigation following the crash of a Navy training aircraft. The difference is significant, because, unlike the statutes governing the admissibility of NTSB and USCG reports, no congressional acts bar the admissibility of JAG reports in civil proceedings. As such, the Beech Court was concerned only with the admissibility of the JAG report under Federal Rule of Evidence 803(8)(C), commonly known as the "public records and reports" exception to the hearsay rule. In Beech Aircraft, the Court stated:

> We hold, therefore, that portions of investigatory reports otherwise admissible under Rule 803(8)(C) are not inadmissible merely because they state a conclusion or opinion.

Id. at 170, 109 S.Ct. at 450 (emphasis added). Rule 402 of the Federal Rules of Evidence provides:

> All relevant evidence is admissible, except as otherwise provided by the Constitution of the United States, by Act of Congress, by these rules, or by other rules prescribed by the Supreme Court pursuant to statutory authority. Evidence which is not relevant is not admissible.

Thus, where, as here, Congress has provided that reports of the

NTSB are not admissible in a proceeding such as the instant proceeding, and the United States Coast Guard, under authority of Congress, 14 U.S.C. § 2, has directed that the investigations of marine casualties are not intended to fix civil responsibility, Beech Aircraft does not require this Court to hold that the conclusions and opinions contained in the NTSB and USCG reports are admissible.

For the reasons set forth above, this Court concludes that the opinions and legal conclusions contained in the NTSB and USCG reports, are not admissible.

Even if admissibility was not precluded for the reasons indicated in this opinion, this Court does not believe that such conclusions and opinions would assist the trier of fact in making the decisions which this Court is required to make. This Court has been presented with extensive testimony as to the facts circumstances surrounding the incident of September 16, 1990, which is the subject matter of this lawsuit. This Court, as trier of fact, believes that it is capable of making a determination as to fault, responsibility, or limitation, based on the evidence admissible under the Federal Rules of Evidence, and someone else's conclusions based on the information presented to him or her would not, in this Court's opinion, be helpful to this Court.

Therefore,

IT IS ORDERED that the conclusions and opinion contained in the NTSB and USCG reports are not admitted into evidence.

END OF DOCUMENT

APPENDIX F — REPORT OF THE UNITED STATES COAST GUARD DATED AUGUST 13, 1991

108-90
MC90006154
13 Aug 91

Subj: U. S. TANKSHIP JUPITER, O.N. 571820, FIRE AND EXPLOSION AT THE TOTAL PETROLEUM WHARF ON THE SAGINAW RIVER AT BAY CITY, MICHIGAN, ON 16 SEPTEMBER 1990, WITH INJURY AND LOSS OF LIFE

CONCLUSIONS

1. The proximate cause of the casualty was failure of Total Petroleum Wharf #4 dolphin oak king spile, when subjected to forces through the JUPITER's mooring lines during the transit of the BUFFALO.

2. The #4 dolphin king spile most likely failed due to its loss of strength as a result of the decayed condition of its core.

3. The exact speed of the BUFFALO as it passed the JUPITER is undeterminable. However, its approximate speed as calculated between the Railroad Bridge and the Independence Bridge was about 5.4 m.p.h. This is further supported by the testimony of Dr. ASCHERL whose vessel could not attain speeds in excess of 6 miles per hour. He never used full throttle during the transit and estimated the speed of BUFFALO at various times between 3 to 5 miles per hour.

4. There is no evidence to dispute the BUFFALO's contention that they were operating at 4' of pitch upon arrival to the Railroad Bridge and did not change this setting until after passing by the JUPITER (para. 10 of findings). However, the idle speed

observed by the Chief Engineer, Kent STOOR of 390 r.p.m.s was 50 r.p.m.s higher than the design idle setting of 340 r.p.m.s. It is conceivable this 50 r.p.m. difference would partially account for the greater vessel speed calculated versus the slower speed expected by the master at his 4' pitch setting.

5. The BUFFALO initiated the hydrodynamic interaction which caused the JUPITER to surge forward. This phenomenon was expected by the crew of the JUPITER as evidenced by their preparation to counteract it.

6. Strength calculations of a sound 13" diameter white oak spile show it would have more than sufficient strength to withstand the forces exerted on it from JUPITER's mooring lines from the 5.4 m.p.h. transit of the BUFFALO.

7. With the stern of the JUPITER no longer attached to the #4 dolphin the JUPITER surged forward andaway from the wharf due to the continuing hydrodynamic interaction created by the BUFFALO's transit in the adjoining narrow, shallow channel.

8. As the JUPITER continued to swing away from the wharf, the #3 wire aft of the manifold "free wheeled" off the drum due to the winch being turned on and set in neutral. This allowed the vessel to swing out tethered only by the cargo lose and the forward mooring lines.

9. The second forward surge of the JUPITER tore the gasoline pipeline loose from its supports as thecargo transfer hose (connected between the manifold on the JUPITER and the pipeline on the wharf) dragged the pipeline approximately 10' upstream. This dragging movement damaged the 3/4" nitrogen purge line of the gasoline pipeline allowing gasoline to spray/

flow out of the 1" to 3/4" reducer fitting which failed. Gasoline sprayed/flowed onto the wharf and probably had sufficient initial high pressure, assisted by the wind to also spray onto the vessel. The dragging movement also pulled loose the 440-volt power line to the gasoline pipeline motor operated valve which then sparked as it shorted to ground igniting the gasoline vapors in the area.

10. The cargo hose failed after reaching its maximum extension and sprayed gasoline contained within it over the cargo manifold area of the JUPITER. Although the cargo pumps were secured, the addition of this gasoline contributed to the massive fire on deck.

11. Once the cargo hose broke, the JUPITER swung crossways to the channel tethered only by the #l mooring line wire cable. It cannot be determined why the #2 mooring line failed, but it is probable that it slipped off the #2 king spile during the second surge forward. The higher bow (at the time of the casualty than when the cargo transfer commenced) may have contributed to the mooring line slipping of the #2 king spile. It was not from failure of the #2 dolphin king spile which was observed to be intact during the fire.

12. Initial explosions of cargo tanks of the JUPITER were not caused by auto ignition. They were most likely caused by improperly installed flame screens which allowed a ready path for flame propagation into the partially empty, vapor rich tanks.

13. Based on the testimony and the inconclusiveness of surveyed damage to explain the exact cargo tank explosion sequence, it is most probable that the #4 port cargo tank was the first to explode. Certainly the location of the #4 port cargo tank

ullage opening (just aft of the manifold piping and downwind from the parted transfer hose) made it most susceptible to the spreading gasoline flames on deck. Contrarily, the vertical steel breakwater on deck between the manifold area and the #3 starboard cargo tank ullage opening and the effects of the prevailing wind would have hindered the spread of gasoline to the #3 starboard ullage opening. Flame most probably entered through the gap between the flame screen and the "ullage pipe" wall on the #4 port cargo tank ullage opening. Testimony that the sounding tapes could be freely raised and lowered without removal of the flames screens attest to the presence of gaps in the ullage openings.

14. The appearance of "bodies" being blown over the bow of the JUPITER as seen by Dr. ASCHERL was either the third mate and the A.B. jumping overboard or pieces of deck machinery being blown over during one of the cargo tank explosions.

15. The actions of Pumpman WARREN of the JUPITER to signal the BUFFALO to slow down were not observed by bridge personnel on the BUFFALO. No attempt was made to call the BUFFALO by radio.

16. M/V BUFFALO maintained a prudent distance off the JUPITER relative to consideration for the navigable channel width, necessary positioning to line up on the Independence Bridge, wind conditions, and position of the JUPITER. Captain MacFALDA took reasonable cognizance of the JUPITER when he tried to keep his center-line to the left of mid-channel to achieve maximum safe separation between his vessel and the JUPITER. While the positioning of the JUPITER at the Total Oil Wharf may have given the appearance of encroaching on the channel, scaled measurements on ACOE Chart (Exhibit 17)

indicate a vessel the size of the JUPITER would be JUST outside the designated navigable channel of 200' in width.

17. The crew of the JUPITER responded to fire breaking out on deck in the cargo piping manifold area by manning the #3 and #4 foam monitors located on either side of the aft deckhouse. The initial cargo tank explosion probably severed the foam supply piping to the #l and #2 foam monitors on deck resulting in the inability to produce normal pressure at the #3 and #4 foam monitors. Even if the crew had closed the isolation valve for foam monitor 1 and #2, their efforts most probably would have been ineffective in putting out the fire since stations #3 and #4 covered only the after 100' of deck, not the manifold area or forward where the intensity of the fire was located.

18. Mr. SEXTON died of asphyxiation due to drowning. Contributing to his death was his failure to grab a flotation device at the time he departed the vessel. Ring buoys were readily accessible on the bow but were not used.

19. With the exception of the deceased and the JUPITER's third mate, survival of the remaining crewmembers is attributed to the orderly departure from the vessel and the use of PFD's or equivalent personal lifesaving devices, and timely response of rescue forces.

20. The actions on the part of the following persons are commendable:

Third mate - Daniel RENTSCHLER
Total Oil Facility personnel - Mr. Elmer SELTZ and Mr. Ken FOSTER
Auxiliarists - Mr. and Mrs. Roger C. COLBY
Coast Guard personnel aboard CG-41466 and CG-224310

Appendix F

The actions of Captain BECKWITH and his crew in trying to fight the fire and ultimately conducting an orderly abandonment are indicative of a strong sense of responsibility and discipline and are worthy of praise.

21. There is no evidence of actionable misconduct, inattention to duty, negligence or willful violation of law or regulation on the part of licensed or certified persons, nor evidence that the use of alcohol or drugs, nor evidence that failure of inspected material or equipment, nor evidence hat any personnel of the Coast Guard, or any other government agency or any other person contributed to the casualty.

RECOMMENDATIONS

1. That Total Petroleum, Inc. revise its inspection procedures for wood king spiles of its Saginaw River offshore wharf because the #4 dolphin king spile deteriorated much sooner than expected and the current visual inspection procedures failed to detect the weakened core. Total Petroleum, Inc. explore ways to prevent core deterioration such as capping the top end of the king spile to minimize water entry.

2. That Total Petroleum, Inc.'s Saginaw River designated waterfront facility operations manual be amended to require that all tank vessel cargo transfers be shutdown when large vessels pass by and both shoreside and vessel personnel maintain a 156.8 mHz (channel 16) radio watch to monitor upbound and downbound traffic. In addition, Total Petroleum, Inc. personnel should cover vessel notification and passing vessel shutdown procedures at the pre-transfer conference.

3. That Total Petroleum, Inc. consider redesign of the mooring

arrangements on the wharf so that bow and stern breast lines of tankships are not required to be attached to the same mooring point as the vessel's spring lines to lessen the possibility of vessel breakaways from their wharf.

4. That Cleveland Tankers, Inc. reemphasize to all tankship personnel the importance of properly fitting flame screens. Particular attention should be paid to a continuous seating surface for flame screens and that no gaps exist between the flame screen frames and the side walls of ullage openings. Additionally, a reassessment of shutdown procedure when being passed by other large vessels should include, radio watch and communication with vessels in the area and terminal personnel securing pumps, closing valves, tending lines and positive control of any shoreside valve such as the MOV on Total's Wharf. Further training in the capabilities and use of deck-foam system is needed.

5. That correct installation of flame screens be reemphasized to all Coast Guard Marine Safety personnel engaged in vessel inspections/boardings.

6. That a copy of this report be forwarded to IMO inasmuch as this casualty constitutes a serious marine casualty,

7. That consideration be given to extending suitable recognition to those personnel identified in conclusion number 20 for their actions in responding to this incident.

8. This casualty investigation be closed.

L. J. BALOK

Appendix F

LIST OF EXHIBITS AND ENCLOSURES EXHIBITS

No. 1	Capt. MacFalda -Log
No. 3	Saginaw River Map
No. 4	Illustration — Capt. MacFalda
No. 5	Illustration — Capt. MacFalda
No. 7	Illustration — R. Hollingsworth
No. 8	Illustration — R. Hollingsworth
No. 9	Illustration — R. Hollingsworth
No. 12	Wood from pilings
No. 15	Illustration — L. Terleci
No. 16(a-d)	Illustration — prior to incident
No. 17	Corps of Engineers — Area chart
No. 18(a-n)	Photographs — Ms. Cooper
No. 19	Declaration of Inspection — copy
No. 21	Oil Transfer Procedures
No. 23	Page from radio log — 9/14-15/90
No. 24	Load and discharge papers — ship
No. 26	Diagram — MV Jupiter
No. 27(a-d)	Licenses — Capt. Beckwith, Rentchler, Stengel
No. 28	Loading pipe aft — end
No. 29	Loading pipe aft — side
No. 30(a-c)	Photographs — By Total of Jupiter
No. 31(a-d)	Photographs — Bay City Times
No. 32	Inspection — MV Jupiter — copy
No. 33	Mics. documents — Re: Total exam
No. 34	Form 2692 — MV Jupiter
No. 36	Record book — MV Jupiter — Pages 400-401
No. 37(a-c)	Photographs — A. Garner
No. 38	Weather log
No. 39	Death Certificate — T. Sexton — Certified Copy
No. 40	Divers report — uncertified copy
No. 41	Bridge log
No 42	BUFFALO crew list — 9/16/90
No. 43	BUFFALO COI

APPENDIX G — SEQUENTIAL PHOTOGRAPHS OF VESSEL PASSAGE AND EXPLOSIONS

(Photos Appear at Pages 156a-163a)

156a

157a

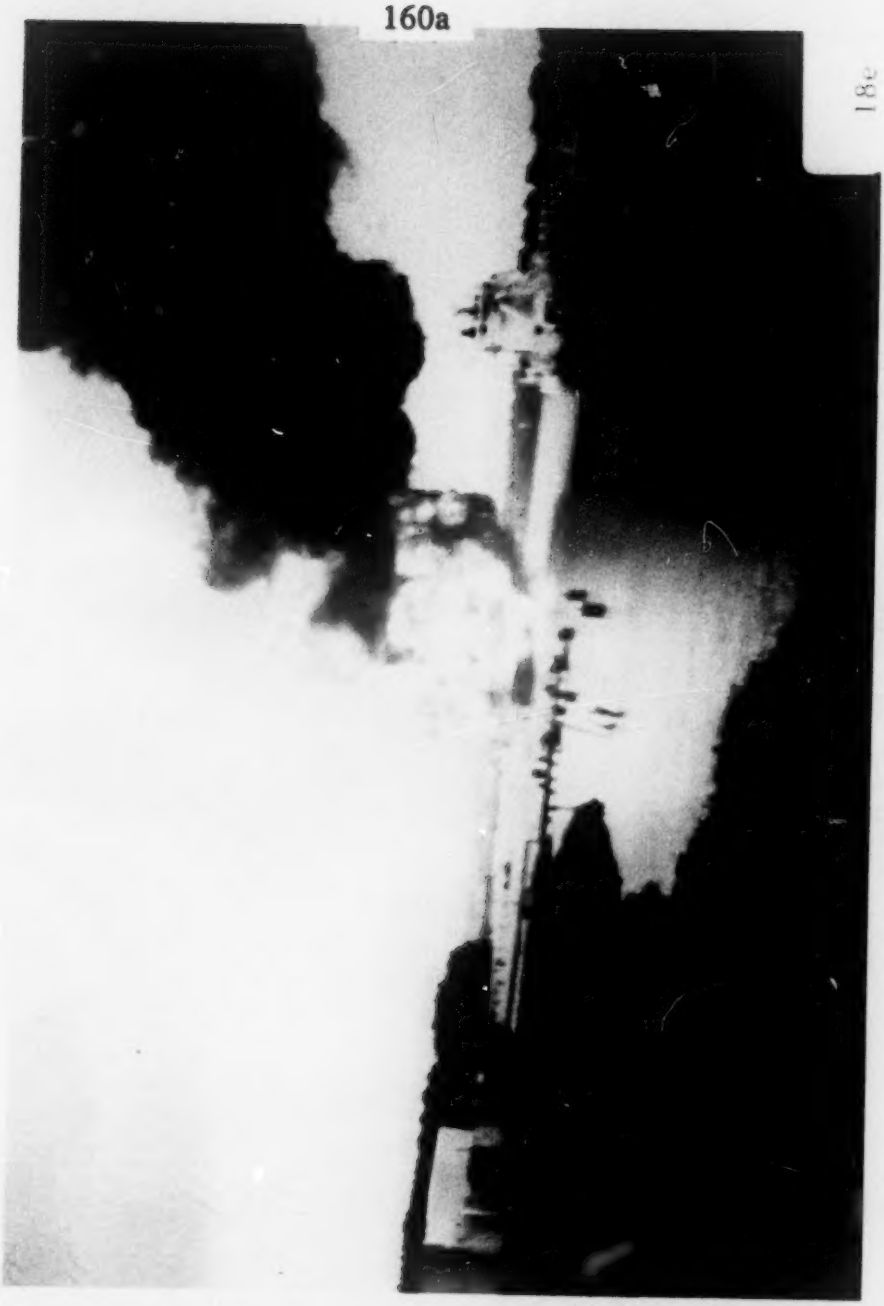
18b

158a

159a

18d

160a



163a